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THE
BEAUTIES
OF
NATURE AND ART
DISPLAYED,
IN A
TOUR THROUGH THE WORLD.

THE
TERRA
J. Jefferys



THE World
Wm. Woodcut.

This is a circular world map from 1780, titled "THE World" and "Wm. Woodcut". The map is centered on the Atlantic Ocean, with the Americas on the left and Europe, Africa, and Asia on the right. The map is divided into several regions, including Europe, Asia, Africa, and America. Key locations labeled include London, Paris, Rome, Constantinople, Calcutta, Bombay, Madras, and many others. The map also shows the Indian Ocean, the Red Sea, and the Mediterranean Sea. The map is decorated with a compass rose and a decorative border featuring figures and symbols.

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THE *second*
B E A U T I E S
OF *K*
N A T U R E A N D A R T
D I S P L A Y E D,
I N A
TOUR THROUGH THE WORLD;

C O N T A I N I N G

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| <p>I. A General Account of all the Countries in the World, remarkable for either Natural or Artificial Curiosities; their Situation, Boundaries, Extent. and Divisions; their Rivers, Air, Soil, chief Cities, &c.</p> <p>II. A particular Account of the most curious natural Productions of each Country, in the Animal, Vegetable, and Fossil Kingdoms; of remarkable Mountains, Caverns, and Volcanos; of Medicinal and other singular Springs; of Cataracts, Whirlpools, &c.</p> <p>III. An Historical Account of the most remarkable Earthquakes, Inundations, Fires, Epidemic Diseases, and other pub-</p> | <p>lic Calamities, which have at different Times visited the Inhabitants.</p> <p>IV. Extraordinary Instances of Longevity, Fertility, &c. among the Inhabitants; together with an Account of their most celebrated Inventions, Discoveries, &c.</p> <p>V. Particular Descriptions of the most remarkable public Buildings, and other singular Productions of Art</p> <p>VI. Curious Remains of Antiquity; remarkable Laws, Customs, and Traditions of the Inhabitants; together with a Summary View of the most extraordinary Revolutions among them.</p> |
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Illustrated and embellished with Copper Plates.

The SECOND EDITION, greatly improved.

V O L. I.

L O N D O N:

Printed for G. Robinson, in Pater-Noster-Row, 1774.





P R E F A C E.

LORD BACON, in his admirable Essay for advancing Knowledge, gives an excellent plan of natural history*. He divides this science into the *History of Generations, Præter-generations, and Arts*: The first comprehends the description of nature at liberty, and pursuing her usual course of production; the second contains the history of nature, in her errors, and deviating in the production of monsters; the third comprizes an account of nature in constraint, and obliged by art to second the intentions of man. He goes on to observe, that by thus taking in a wider field, the observations of one part of history may be usefully applied to explain the obscurities in another, and the

* *De Augment. Scientiar.* Shaw's Ed. Vol. I.
P. 44.

wonders of nature may thus lead us, by the shortest passage, to new discoveries in the wonders of art.

Succeeding naturalists have given this design their warmest applause, but they seem to have rested in bare admiration; some have been even guilty of the errors he cautions them to avoid; they have been very sedulous in collecting the names and representations of the minuter parts of nature, and in classing them with all the pomp of erudition, but at the same time, scarce attending to the larger strokes of nature, or deducing any observations tending to the purposes of pleasure or advantage. The manner in which the ancients studied this science, was entirely similar to that proposed by Bacon. Aristotle was not content with confining himself to the consideration of plants or quadrupeds only, but took the boldest excursions into universal nature, still omitting things very minute or common, as unnecessary.

fary to be described, or unworthy the reader's attention. The labours of Pliny were drawn up on a plan still more comprehensive: he endeavoured to embrace all nature, and every art; the history of the heavens, and the earth, of plants, animals, and minerals, of all that could inspire pleasure, or obviate necessity.

It may well excite surprize, how the moderns have come to reject a plan of history, at once so useful and entertaining, and instead of describing nature, have pursued her through dry systems of their own invention. In some measure therefore to reduce natural history to its ancient and most useful form, we have undertaken the following compilation, in which, tho' we cannot arrogate the honours of any new discovery, yet we hope, the reader will find that we have arranged the discoveries of others with judgement, and described the objects of nature with accuracy. In literature,
as

as in other employments, there must be some willing to give up their more ambitious claims, content with being obscurely serviceable.

As our design therefore was, not to seek for new objects in nature, but to arrange those already known; not to excite public attention by our own discoveries, but to collect the discoveries of others; we have here drawn from a great variety of relations whatever has been thought remarkable in the history of our earth, and its inhabitants; we have comprised in a few volumes that learning which lay concealed in foreign languages, or dispersed in books of erudition, to which many readers have as little access as to the distant countries they describe. We have here endeavoured to give a just and lively representation of all that is brought forth in the regular course of production, all that has been produced uncommon and monstrous; and all that man has contributed towards

wards altering the usual course of operation. We have suppressed however the description of those objects with which every reader must be acquainted, and while other naturalists attempt to describe all the objects of nature with the most disgusting prolixity, we have selected only such parts as are useful from their importance, or striking from their infrequency.

We were hindered by the compass which we allotted to our undertaking to enter into the intricacies of science, or to pursue the phantoms of speculation; we wrote for such as have learned to despise the vain parade of literature, and are willing to acquire knowledge without the painful forms of initiation. To such therefore we promise an abridgment of the most amusing and useful parts of learning, arranged in the most uniform method, yet replete with the most entertaining variety. Nor do we fear being taxed with arrogance in our professions,
since

since we claim only the merit of compiling, not of producing what we offer; the mine has been discovered by others, we only attempt to purify the ore.

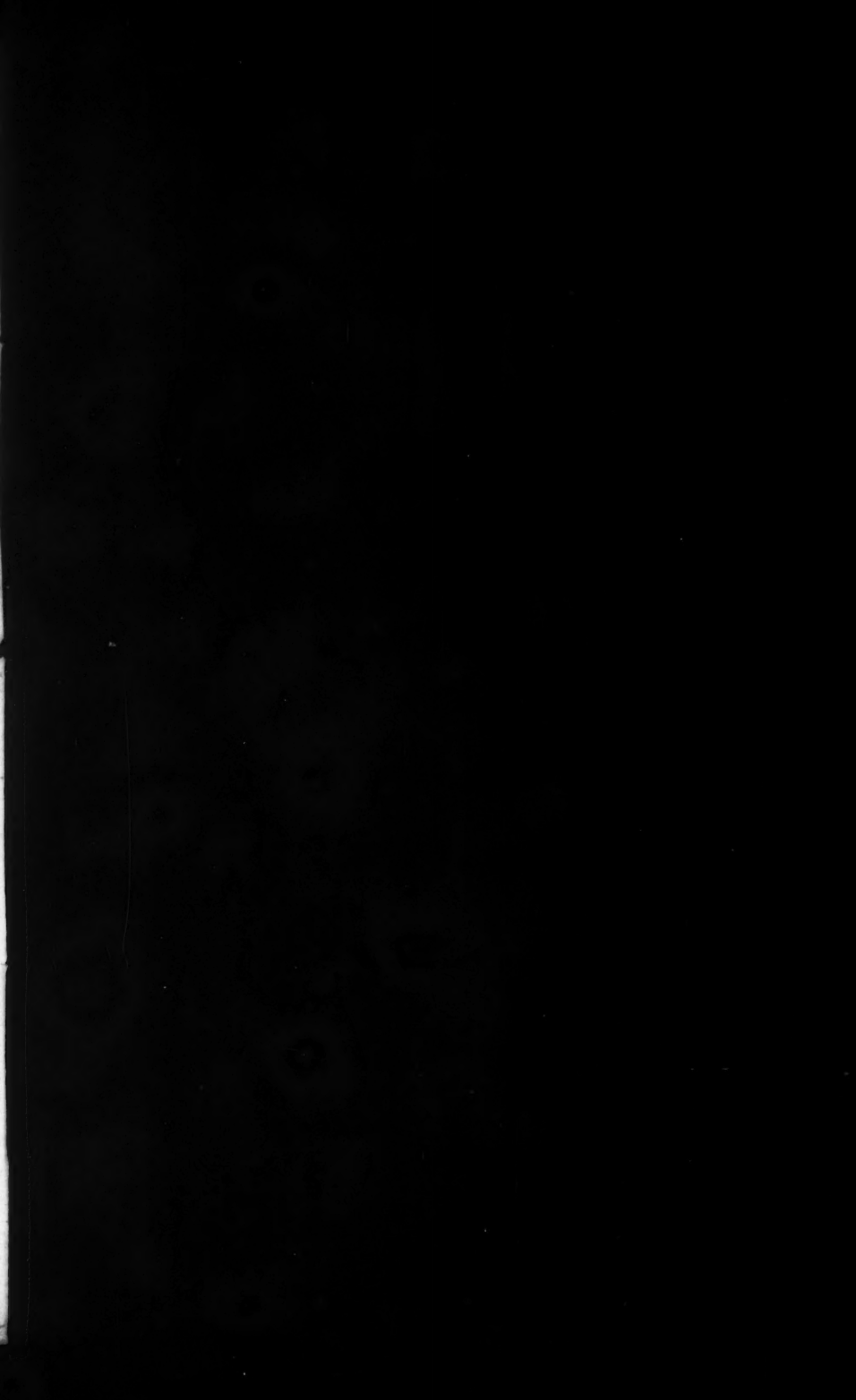
However, few, except such as have laboured at a compilation of this kind, are proper judges of the difficulty of the undertaking. It does not readily appear to every reader, how many books are to be consulted, and what heaps of learned lumber are to be waded through, in order to establish a single fact, or to confute an inveterate error. A competent skill in criticism is required in such works, to ascertain the degree of credit to be given to some accounts, when opposed by contradictory relations. Some share of judgment is necessary in determining what objects in the general groupe of nature deserve a minute description. Some knowledge of our own language is requisite in giving an uniformity of style to a work drawn as this is, from authors entirely neglectful

ful of the arts of expression. But in a particular manner an intimate acquaintance with the latest and best travellers is absolutely necessary, since the manners of mankind, and the face of nature are every hour altering, and like the figures in a *camera obscura*, even while under the pencil, the colours are continually changed, so that new descriptions are ever rising. How far we have united in this performance those requisites of labour, judgment and learning, must be submitted to the decision of candour; it is sufficient for us to shew here, that before we entered upon our task, we were apprised of the difficulty that attended such an undertaking. In short, the reader must judge for himself, whether this be not a more comprehensive and amusing system of natural knowledge, than former works of this kind; all that we can assert without the appearance of a boast, is, that it is much less expensive than any that has been hitherto offered to the public. Sincerity there-

fore needs little ceremony ; we here offer a cheap work, that contains in a small compass the substance of a library, and we desire encouragement no farther than as the purchaser may find his own advantage connected with ours.



THE







J. Gibson Sculp.

West Longitude 4 from London 2

West Longitude 8

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THE
BEAUTIES
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PART I.
Of EUROPE.

CHAP. I.
Of GREAT BRITAIN and IRELAND.
S E C T. I.

A General Account of Great Britain and Ireland.

GREAT BRITAIN is an island in the western ocean, situated between $49^{\circ} 54'$ and $59^{\circ} 53'$ of north latitude, and between $6^{\circ} 20'$ west, and $1^{\circ} 50'$ east longitude. The greatest length of this island, from its southern extremity at the Lizard point in Cornwall, to its northern extremity at Caithness, is 622 miles; and its greatest breadth, from its most
VOL I. B western

western part, the Land's End in Cornwall, to its most eastern part, the South Foreland in Kent, is 285 miles.

The most general division of the kingdom of Great Britain is into South and North Britain. South Britain comprehends England and Wales, and North Britain comprehends Scotland. South Britain is divided into fifty-two shires or counties ; of which there are forty in England, and twelve in Wales.

The shires or counties of England are, Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, Cornwall, Cumberland, Derbyshire, Devonshire, Dorsetshire, Durham, Essex, Gloucestershire, Hampshire, Herefordshire, Hertfordshire, Huntingdonshire, Kent, Lancashire, Leicestershire, Lincolnshire, Middlesex, Monmouthshire, Norfolk, Northamptonshire, Northumberland, Nottinghamshire, Oxfordshire, Rutlandshire, Shropshire, Somersetshire, Staffordshire, Suffolk, Surry, Sussex, Warwickshire, Westmoreland, Wiltshire, Worcestershire, and Yorkshire. Each of these forty counties sends two knights of the shire to represent it in parliament.

The shires of Wales are, Anglesea, Brecknockshire, Caermarthenshire, Caernarvonshire, Cardiganshire, Denbighshire, Flintshire, Glamorganshire, Merionethshire, Montgomeryshire, Pembrokehire, and Radnorshire ; each
of

of these twelve counties sends one knight of the shire to represent it in parliament.

North Britain is divided into the following thirty-three shires, counties, or other divisions: Aberdeenshire, Airshire, Argyleshire, Bamffshire, Berwickshire, Buteshire, Caithnessshire, Clackmannanshire, Cromartyshire, Dunbartonshire, Dumfrieshire, Endinburghshire, Elginshire, Fifeshire, Forfarshire, Haddingtonshire, Invernesshire, Kincardineshire, Stewartry of Kirkcudbright, Kinrosshire, Lanerkshire, Linlithgowshire, Nairnshire, Stewartry of Orkney and Zetland, Peeblesshire, Perthshire, Renfrewshire, Rossshire, Roxburghshire, Selkirkshire, Sterlingshire, Sutherlandshire, and Wigtounshire. These thirty-three shires chuse thirty representatives to sit in the parliament of Great Britain; Buteshire and Caithnessshire chusing alternately, as do Nairnshire and Cromartyshire, and Clackmannanshire and Kinrosshire.

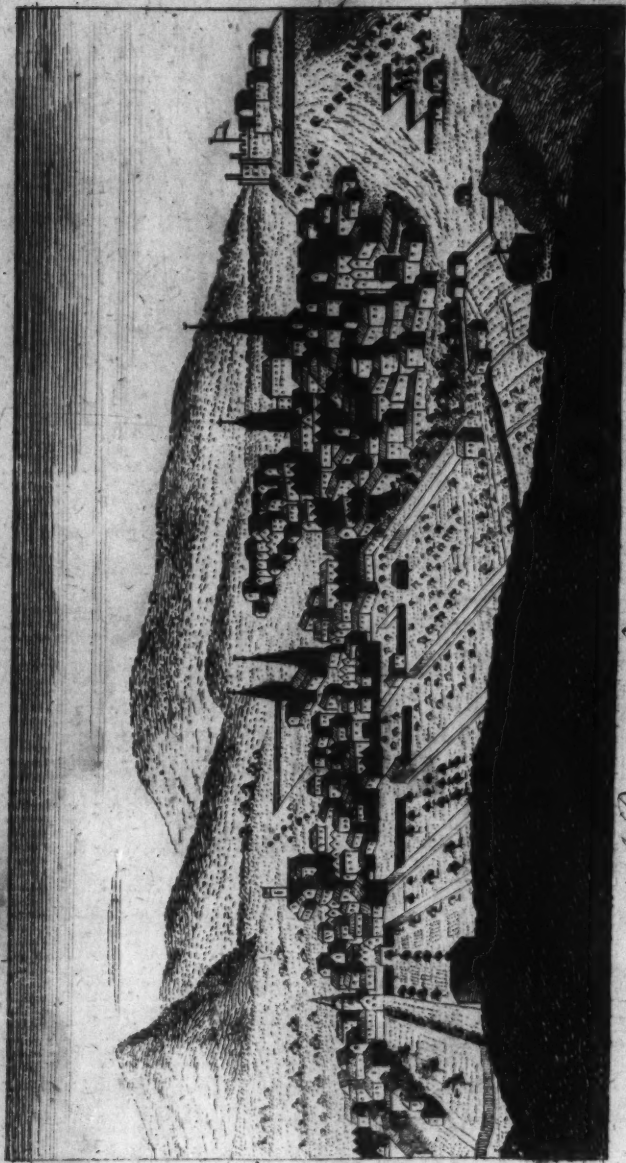
England contains the following twenty-five cities: the city of Ely in Cambridgeshire; the city of Chester in Cheshire; the city of Carlisle in Cumberland; the city of Exeter in Devonshire; the city of Durham in the county of the same name; the city of Gloucester in Gloucestershire; the city of Winchester in Hampshire; the city of Hereford in Herefordshire; the cities of Rochester and Canterbury in Kent; the city of Lincoln in Lincolnshire; the cities of London and Westminster in Middlesex; the

city of Norwich in Norfolk; the city of Peterborough in Northamptonshire; the city of Oxford in Oxfordshire; the cities of Bath, Bristol, and Wells, in Somersetshire; the city of Litchfield in Staffordshire; the city of Chichester in Suffex; the city of Coventry in Warwickshire; the city of Worcester in Worcestershire; the city of Salisbury in Wiltshire; and the city of York in Yorkshire. Each of these twenty-five cities sends two citizens to represent it in parliament, except the city of Ely, which sends none: the city of London, the metropolis of Britain, has four representatives, in parliament. Besides these twenty-five cities, there are in England 167 boroughs, which send each two burgesses to parliament; and five boroughs, each of which sends one only. There are also eight cinque ports, Hastings, Dover, Sandwich, Romney, Hythe, Rye, Winchelsea, and Seaford, each of which sends two members to parliament, who are stiled Barons of the Cinque Ports.

In England there are two universities, those of Oxford and Cambridge, which send each two representatives to parliament.

Wales contains the four following cities: the city of Bangor in Caernarvonshire; the city of St. Asaph in Flintshire; the city of Llapdaff in Glamorganshire; and the city of St. David's in Pembrokeshire. It must, however, be observed, that these are called cities in virtue only of their giving names to bishoprics;

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A Prospect of the City of EDINBURGH.

shoprics ; for they are not incorporated, nor do they send any representatives to parliament. But Wales has twelve boroughs, each of which sends one member to the British parliament.

Scotland contains four cities : Edinburgh, Glasgow, Aberdeen, and St. Andrews, each of which has an university. Including the cities, Scotland has sixty-five royal boroughs, besides Edinburgh, the capital of the antient kingdom of Scotland. Edinburgh sends one representative to parliament ; but the boroughs together send no more than fourteen representatives.

To the British house of commons England sends 489 members, Wales 24, and Scotland 45, in all 558 ; and the whole body of the peerage of Scotland is represented by sixteen peers, who are elected every new parliament at Edinburgh by the Scottish nobility, to sit in the British house of Lords.

The principal rivers in South Britain are,
 1. The Thames, which rises in Gloucestershire, and runs eastward through Wiltshire, Oxfordshire, Berkshire, Buckinghamshire, Surrey, Middlesex, Essex, and Kent, and passing by the cities of Oxford, Westminster and London, discharges itself into the German ocean east of Gravesend, a market town of Kent, twenty-two miles from London.

2. The Medway, which rises in the Weald of Suffex, and running eastward through Kent, and passing by the city of Rochester, divides into two streams, one of which runs north into the æstuary of the Thames, and is called the West Swale, and the other runs east into the same æstuary, and is called the East Swale; and the country, included between these two arms, is called the isle of Sheepey.

3. The Severn, which is esteemed the second river in England rises in Montgomeryshire, in Wales, and running through Shropshire, Worcestershire and Gloucestershire, and passing by the cities of Worcester and Gloucester, falls into that part of the western sea called the Bristol channel, not far from the city of Bristol.

4. The Trent, which is esteemed the third river in England, rises in Staffordshire, and dividing that county nearly into two equal parts, runs through Derbyshire, Nottinghamshire and Lincolnshire; and being joined by the Ouse, and several other rivers towards the mouth, obtains the name of the Humber, and falls into the German ocean.

Other considerable rivers of South Britain are, the Cam, the Tyne, the Tweed, the Tees, the Eden, the Avon, the Derwent, the Ribble, the Mersey, and the Dee.

The principal rivers in North Britain are, the Forth, the Clyde, the Tay, the Spey, the Don, and the Dee. The

The air of South Britain is not so cold in winter, nor so hot in summer, as is the air of countries upon the continent that lie under the same parallels of latitude: but then the air of this country is not so pure, nor is the weather so clear or settled as it is upon the continent.

In Scotland the air is much colder than it is in England, but then it is clearer and more healthy; and the weather is more constant and settled.

The southern parts of England consist chiefly of little fruitful hills and vallies, champaign fields, inclosed grounds, arable, pasture, and meadow, woods, forests, parks, and chaces agreeably intermixed. Towards the north, particularly in Derbyshire, and upon the borders of Scotland, it is more mountainous. Wales is very mountainous, and yet a very plentiful country; the hills teed vast herds of cattle, and afford rich lead and coal mines; and the seas abound with fish.

In the south part of this island, the soil is generally clay: this soil produces good wheat and beans; and the gravelly and sandy soils excellent barley and oats. The county of Kent is famous for cherries and hops; Herefordshire and Devonshire afford the greatest plenty of apples for cyder; Essex and Cambridgeshire are remarkable for the production of saffron; Bedfordshire and Buckinghamshire for woad; and Hampshire for honey and bacon. The timber
grow.

growing in this part of the island is generally oak, elm, ash, beech, and walnut-trees.

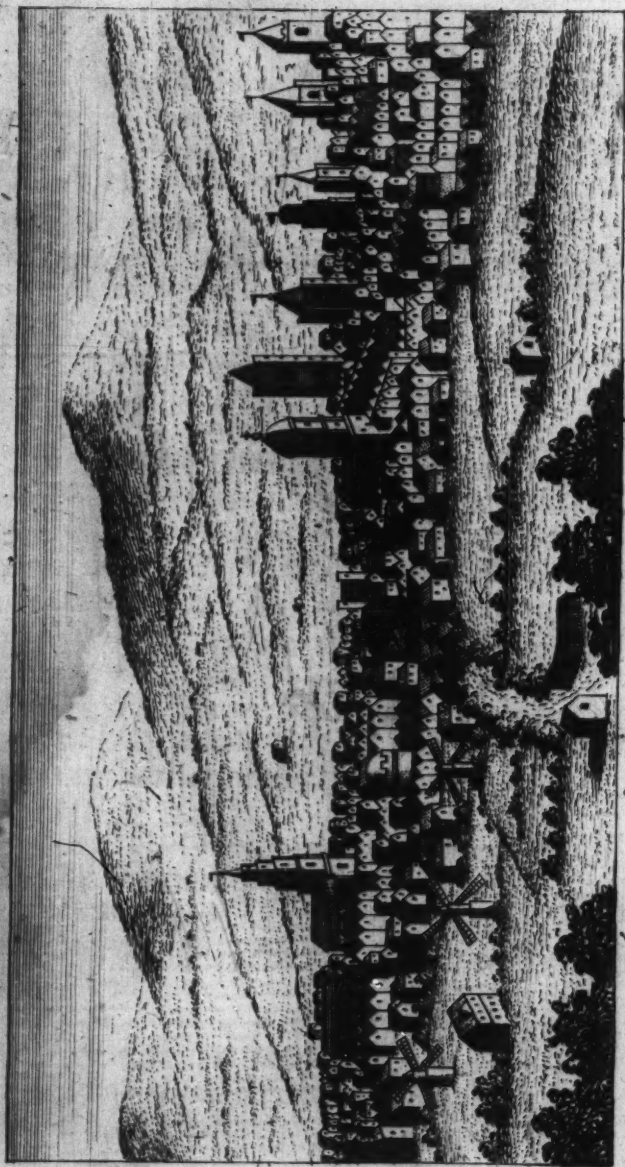
Among the animals in South Britain, common to all the other countries in Europe, the oxen are, perhaps, the largest and the best; the sheep are esteemed both for their fleeces and their flesh; the horses for the saddle and the chace are beautiful, and well proportioned; the draught horses are scarce to be matched any where: of these the British cavalry consists, which is reckoned the best for charging in the world.

No country in Europe abounds with greater variety of excellent sea and river fish than Great Britain; the principal advantages Scotland can boast of, are its fisheries, particularly the herring, cod and salmon fisheries, which, under proper management, might prove a mine of infinite wealth to the whole island, and might add more to its strength and superiority at sea than its whole foreign traffic, by proving a constant nursery of hardy seamen.

As to the minerals of this country, the tin mines in Cornwall are reputed the best in the world. Here are also mines of lead, copper, iron, and some of silver; some very good quarries of free stone, and some of marble. Fuller's earth, which is of singular use in the cloathing trade, is peculiar to this island. Several counties abound with coals, and others with alum and salt pits.

Scotland,

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The City of DUBLIN from the North.

Scotland, being a more mountainous country, is in point of fertility much inferior to England: but the Low-lands are, in general, very fruitful pleasant countries, producing the same grain that England does. Scotland abounds in good timber, particularly oak and fir. Hemp and flax succeed very well in this country; and here may be had all the materials necessary for building and equipping a navy.

North Britain abounds in small neat cattle and sheep; as also in small horses, which are, however, very hardy.

In the hills of Scotland are found the same minerals with those in England, except tin, of which there appears to be no considerable mines in this part of the island.

IRELAND is an island in the western ocean, situated between 51 and 55° 20' of north latitude, and between 6 and 10 degrees west longitude. It is separated from Great Britain by St. George's or the Irish channel on the east; but the distance from cape Redboy, in the county of Antrim in Ireland, to that part of the continent of Britain, called Kintyre, in Wigtownshire in Scotland, is no more than fifteen miles. The greatest length of this island, from its southern extremity, at Missenhead, in the county of Cork, to its northern extremity, at Fairhead, in the county of Antrim, is about 285 miles; its greatest breadth, from its most western part, in the county of Mayo, to its most eastern

eastern part, in the county of Down, is 152 miles; and its circumference is reckoned at about 1400 miles.

The most general division of Ireland is into the four following provinces: Ulster, Leinster, Munster and Connaught.

It is subdivided into thirty-two counties, of which the province of Ulster contains the counties of Donnegal, or Tyrconnel, Londonderry, Antrim, Tyrone, Fermanagh, Armagh, Down, Monaghan, and Cavan. The province of Leinster contains the counties of Lowth, Longford, Eastmeath, Westmeath, Dublin, Kildare, King's County, Queen's County, Wicklow, Catherlogh, Wexford, and Kilkenny. The province of Munster contains the counties of Waterford, Tipperary, Cork, Limerick, Kerry, and Clare; and the province of Connaught contains the counties of Galway, Roscommon, Mayo, Sligo, and Leitrim.

The principal city in each of the four provinces of Ireland is, the city of Londonderry, in the province of Ulster; the city of Dublin, in the province of Leinster; the city of Cork, in the province of Munster; and that of Galway, in the province of Connaught.

The city of Dublin is an archbishopric, an university, and the metropolis of the kingdom of Ireland.

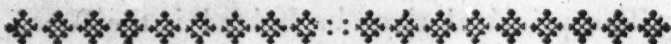
In Ireland there is a parliament, composed of a house of lords and a house of commons, like the parliament of Great Britain: the house of lords consists of the peers of the kingdom of Ireland, who are generally about 150 in number, including twenty-two bishops; and the representatives of the commons of Ireland are in number about 300.

The principal river in Ireland is the Shannon, which rises from a lake, called Loch Allen, in the county of Leitrim: it runs south-west; and dividing the province of Connaught from those of Leinster and Munster, after a course of more than 200 miles, falls into the western ocean, at a bay called Shannon Mouth, which is about ten miles broad. Other considerable rivers of this island are, the Boyne, the Liffy, the Lee, the Blackwater, and the Sure.

The air of this island is nearly the same with that of such parts of Britain as lie under the same parallel of latitude, only in several parts of Ireland it is more gross and impure, occasioned by the many lakes and marshes with which this country abounds. The soil is very fruitful, but consists chiefly of meadow and pasture ground. The bogs of this country are very good meadow land, after they are drained; and the island has much more land fit for corn than is cultivated: the soil is excellent for hemp and flax; but there is no produce of this country more esteemed than its wool. The cattle are generally small. There is a very good herring-fishery

fishery on that part of the Irish coast next to Scotland, and a good cod-fishery on the south coast.

Here are some tin, lead, and iron mines: the iron mines are very considerable, and consist of three sorts; the rock mine, the bog mine, and the mountain mine.



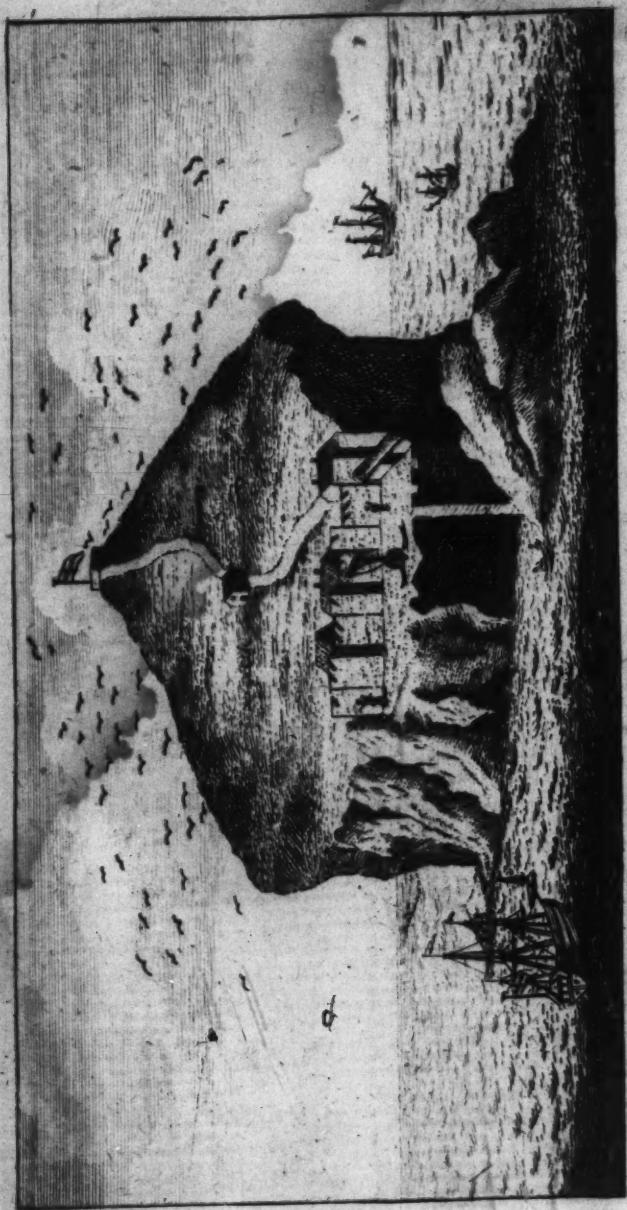
S E C T. II.

A particular Account of the most curious natural Productions of Great Britain and Ireland, and the rest of the British Islands; including very extraordinary, monstrous, and unnatural Productions in the animal, vegetable, and fossil Kingdoms; of remarkable Mountains and Caverns; of medicinal and other singular Springs; and of other striking Objects of Curiosity.

A N I M A L S.

AS the birds, beasts, fishes, and insects, peculiar to any country, are generally known to its inhabitants, it is natural to suppose, that there are but very few animals in this island, an account of which would much gratify the curiosity of an English reader; for which reason, it is proper this article should be short, in proportion as it affords but small matter of entertainment.

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The BASS ISLAND.

The principal objects of curiosity peculiar to Britain, in the animal world, seem to be confined to the family of birds, of which there are some remarkable for singularities, that cannot fail of exciting the attention of the curious.

It is observed, that, about Royston, a market town of Hertfordshire, there are crows which have some white feathers about their breasts and wings, and in this particular differ from all other crows in these islands.

The periodical rendezvous of swallows along the coast of Suffolk, from Orfordness to Yarmouth, is very extraordinary: for about the end of summer, an incredible number of these birds gather here into a body, where they wait the first northerly wind, to transport themselves out of Britain, probably to some warmer climate. They are sometimes wind-bound for several days; but it no sooner blows fair than they all take wing together, and never appear till the following spring, when they arrive here in vast bodies, and from hence distribute themselves all over Britain.

In the Frith of Forth, near Edinburgh, about a mile from the shore, is a rock, or small island, called the Bass*, which has a few inhabitants;

* This island, which is about a mile round, rises above the level of the sea to a considerable height, in form of a cone. It is inaccessible on all sides, except
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bitants; and, in May and June, it is resorted to by an incredible number of wild geese, distinguished by the name of Solan geese. They generally arrive in one or two bodies: the principal body is preceded by some few of their number, called Scouts, and supposed to be detached by the rest to view the island, and to mark out their several habitations, or the places for building their nests in the sides of the rock. After these birds arrive upon the island, the inhabitants take care to give them no disturbance, till they have built their nests; after which they are not to be frightened away by any noise whatever: they lay but one egg, which they fix so dexterously to a point of the rock, in the middle of the nest, that, if it be once removed, it is impossible to fix it again. This egg they hatch, by holding it under one foot; and they seldom leave it till it is hatched. The young are of an ash colour, which, as they arrive to maturity, changes to a good white. They are exceeding fat, but their flesh has a strong flavour of the herring, upon which they chiefly feed. They have a long neck like a crane, and a strong sharp bill,

by one narrow passage, at the top of which there was formerly a fort, mounted with cannon, which has been neglected ever since the revolution. At that time, it was surprised by some of king James's party, who made such a defence for him, that this was the last place taken in the three kingdoms. At the top of this rock is a spring of water, which supplied the garrison; and towards the bottom, about low-water mark, the tides have worn a hole almost through it.

about

about four inches in length, with which they strike so violently at their prey, that it sometimes sticks fast in a board, baited for that purpose with a herring; and, being thus fast, they are often taken before they can disengage themselves. The inhabitants of the island carry on a sort of trade in these fowls, which are bought as well for their feathers as their flesh. The young are taken from their nests by one slung in a rope, and let down the sides of the rock. These birds leave this place in September; but whither they retire for the winter is not known.

Several of the western isles of Scotland are also frequented, in like manner, and at the same season, by vast numbers of Solan geese, particularly the islands of St. Kilda, Sca, and Borerà. The inhabitants of these little islands, the two last of which are not above a mile in circumference, annually take above 20,000 of these birds, which they keep in store-houses, built for that purpose; and their eggs they preserve some months in the ashes of peat. The eggs they eat raw, and esteem them a good pectoral; the fat of these geese is an excellent vulnerary; and a pudding made of it, and boiled in water-gruel, they reckon a specific against coughs. These birds are less than the land geese: whereas those of the Bass are bigger. They will fly above thirty leagues to fish for herring, and return to their nests in the rocks with five or six entire in their gorges, which they throw up to feed their young. They go in quest of food, and hatch by turns: they

C 2

sleep

sleep with their heads under their wings, and always have one to keep watch, which, if the fowler happens to surprise, the rest of the flock are easily taken by the neck, one after another.

In these islands there is a remarkable bird, called the Fulmar, of a grey colour, and about the size of a moor hen. It has a strong bill, with wide nostrils, and is supposed to pick its food out of whales at sea, the flesh of which, together with sorrel, is found in its nest. This bird, when any one comes near it, spouts out of its bill a quantity of pure oil, which the natives, when they catch the fowl with gins, have a method of receiving in vessels; and not only burn it in lamps, but use it medicinally as a remedy for rheumatic pains, to disperse tumors, and for purging and vomiting.

In the Orkney islands is found a species of geese called the Bernacle, or Clakis, a bird considerably smaller than the common goose, but larger than the duck, and remarkable for having been erroneously supposed by Gerard, and some other authors, the production of a peculiar species of shell-fish, called the Bernacle shell, found on decayed wood that lies about the sea shores.

Before the south promontory of the Isle of Man, a considerable island situated between Great Britain and Ireland, there is a smaller island, called the *Calf of Man*, resorted to at a particular season of the year by a vast number

ber of sea fowl, called puffins, that breed there in the holes of rabbits which quit their habitations to these strangers during that season. About the middle of August, when the young puffins are ready to take wing, the inhabitants of this island have a method of catching them in such quantities, that between four and five thousand of these birds are taken every year, part of which are consumed by the inhabitants themselves, and part pickled and sent abroad as presents.

Such being the most striking peculiarities in the natural history of the animals of this country, notice shall be taken in the next place of the most extraordinary, monstrous, and unnatural productions of the animal world, to be met with in the records of Great Britain, according to the scheme of this work.

One of the most extraordinary and unaccountable phenomena in nature seems to be the circumstance of living animals being found included in the middle of marble and other stone blocks; and yet wonderful as such circumstances may appear, instances, however rare, of the truth of them are so well attested in this as well as in other countries, that there is scarce any room left for doubt.

In the hall of Chillingham Castle near Woller, a market town of Northumberland, there is a marble chimney-piece, with part of a cavity, in which a toad was found alive at the
C 3
sawing.

sawing of the stone. The other part of the stone, which contains the other part of the cavity, answering to the figure and dimensions of a toad, is a chimney-piece in Horton Castle, north of the town of Woller. And at Statfold, not far from Wolverhampton in Staffordshire, there is a church, with a steeple, which was repaired upwards of a century ago; and it is recorded upon the testimony of many of the inhabitants, then living, that the top stone of this steeple, being thrown by one of the workmen from the pinnacle into the church yard, broke in two pieces, and discovered a living toad in the center of it, which died soon after it was exposed to the air.

Near Newcastle under Line, in Staffordshire, there is a quarry where a stone is said to have been dug, in the middle of which, when sawed asunder, was found a human skull with teeth in it. And the skeleton of a crocodile, fixed in a flat stone, now to be seen in the museum of the Royal Society at London, is said to have been found in some place of Lincolnshire.

At Okeham, in Rutlandshire, in the year 1619, was born one Jeffery Hudson, a man, who when he was seven years old, was not above fifteen inches high, though his parents, who had several other children, of the usual size, were tall and lusty. At that age he was taken into the family of the duke of Buckingham; and to divert the court, who, on a pro-

progress through this county, were entertained at the Duke's seat, at Burley on the Hill, he was served up to table in a cold pye. Between the seventh and the thirtieth years of his age, he did not advance many inches in stature, but soon after thirty, he shot up to the height of three feet nine inches, which he never exceeded. He was given to Henrietta Maria, consort of King Charles the First, probably at the time when he was served up in the pye: and that princess kept him as her dwarf, and is said to have employed him on messages abroad. He died in 1682.

In the church yard of Wotton, about five miles from Darking, in Surry, was dug up in the reign of Charles the Second, a human skeleton, which measured nine feet three inches in length.

At Doward Hill, in the parish of Whitchurch, not far from Ross in Herefordshire, some men, who were digging, found a cavity which seemed to have been arched over, and in it a human skeleton, which appeared to have been more than double the stature of the tallest man now known. These bones were, not many years ago, in the possession of a surgeon at Bristol in Somersetshire.

At Sanghall, near the city of Chester, there lived, in the year 1668, a woman aged 72, who had two horns growing out of the right side of her head a little above her ear. When

she was eight and twenty years old, an excrescence grew out of this part of her head which resembled a wen. After it had continued two and thirty years, it shot out into two horns, about three inches long. After they had continued five years, she cast them, and two more came up in their room.

In the library of the university of Edinburgh, among other natural curiosities, is preserved a crooked horn, several inches long, which, in the year 1671, was cut out of a woman's head, who was then 50 years of age, and lived twelve years after this operation.

In the year 1532, a fish was cast ashore at Tinmouth, in Northumberland, not of the whale kind, which measured, from head to tail, ninety feet, and from back to belly, thirty-four feet: the mouth was upwards of twenty-two feet long, with jaws proportionable: the ribs, which were thirty in number, measured each twenty-one feet in length, and a foot and a half round; it had five very large throats, and twenty-five smaller passages, into three vast bellies; it had two fins, each of which was about fifteen feet long, and was a sufficient load for ten oxen; the eyes were not much larger than those of an ox, but placed at the distance of two and twenty feet from each other. Instead of teeth, it had plates of a horny substance, and a tongue about seven and twenty feet long; the tail, which was

forked,

forked, and indented like a saw, measured six and twenty feet in length.

At Kilgarring, in Pembrokeshire, there is a steep cataract of the river Teivy, called the Salmon's Leap, from the admirable dexterity of that fish in leaping over the cataract. When a salmon, on its way up the river from the sea, arrives at this cataract, it forms itself into a curve, by bending its tail to its mouth; and sometimes, in order to mount with the greater velocity, by holding its tail between its teeth; then disengaging itself suddenly, like an elastic spiral violently reflected, it springs over the precipice.

VEGE-

V E G E T A B L E S.

AS no vegetable, peculiar to Great Britain, is reckoned a subject of much curiosity, it is apprehended, that an account of the most remarkable would yield no great entertainment in a work of this kind to natives of the country; therefore this article shall consist only of the most distinguishing peculiarities, in the growth of vegetables, found in the Natural History of the island.

In the garden of the manor-house of Wickware, in Gloucestershire, is, or lately was, a chefnut tree, which measures nineteen yards, or fifty-seven feet in circumference, at the height of six feet above the ground, and is supposed to have been planted in the reign of King John, and about the year 1216.

At Siffivernes, a village near Stevenage, a market town of Hertfordshire, there stood a walnut tree, in the year 1627, which covered seventy-six poles of ground; but the weight of the boughs was such, as at length cleft the trunk. Mr. Penn, who was at that time lord of the manor, refused fifty pounds for it. He had nineteen loads of planks out of it; and a gun-stock-maker at London had as much of its wood as cost ten pounds carriage; and there were thirty loads more of roots and branches.

In

In a field called Cuckold's Haven, not far from Sandbeck, near Tickhill, in Yorkshire, there now grows, or very lately did grow, a yew tree, the stem of which is straight and smooth, to the height of about ten feet; the branches rise, one above another, in circles of such exact dimensions that they appear to be the effect of art; the shoots of each year are exactly conformable to one another, and so thick, that the birds can scarce find any entrance; its colour is remarkably bright and vivid, which together with its uncommon figure, gives it at some distance, the appearance of a fine artificial tuft of green velvet.

Glastonbury, in Somersetshire, was once famous for a kind of hawthorn tree, which is reckoned by botanists a species of mespillus, or medlar. This tree was believed to have been first produced from a staff that Joseph of Arimathea, who is said to have resided in this place, stuck in the ground. The same thorn was thought miraculously to bud upon Christmas Day in the morning, flower at noon, and decay at night. It is certain, that there was a tree in the abbey church yard here, which in mild weather used to put out some blossoms about Chistmas. After the suppression of the abbey, this tree was cut down; but as it is propagated by layers, several branches of it were planted in the neighbourhood, which continue, in mild weather and a warm exposure, to blossom about the same time. It has been propagated in several other parts of England,
by

by superstitious persons, who still believe the miracle, though contrary to the experience of every year.



F O S S I L S.

AMONG the different minerals produced in Great Britain, there is none more valuable than tin, which is the peculiar product of the counties of Cornwall and Devonshire, and is an important article of trade to the nation in all the foreign markets of the known world. The tin is a whitish metal, softer than silver, but much harder than lead. It is the lightest of all the metals, and has this remarkable quality, that when bent, it makes a crackling noise. It is less susceptible of rust than most of the other metals, has very little elasticity, and is scarce at all sonorous. It melts with a much smaller degree of fire than any other metal; a heat but a little greater than boiling water being sufficient to fuse it. It is the least simple of all the metals, being brought by a very small degree of fire to emit sulphureous fumes in great abundance; the consequence of which is, that of all metals, this loses most of its weight, and calcines most easily in the fire.

Tin adheres to the rest of the metals with greater ease than any other; and hence it is in continual use in covering plates of iron, and lining

lining copper and other metals, to prevent their rusting, and to save the liquids put into them from acquiring any bad qualities from those metals.

This metal is found either collected and fixed, or loose and detached: it is found collected either in a lode, or in a horizontal layer of ore, called a floor, or interspersed in grains and bunches in the natural rock. It is found loose and detached either in single separate stones, called shodes, or in a continued course of such stones, called the beuhey, i. e. the living stream: for when a stone has no metal in it, the tanners say it is dead; or, lastly, in a powder by itself. A floor is sometimes found at the depth of many fathom; and the same ore is sometimes found in a perpendicular lode for many fathom, and then diffused into a floor. The mines, in which there are these floors, are very dangerous; for great care must be taken to support the vast mass that is undermined, by digging out a horizontal stratum of ore, at the depth of many fathoms below the surface: for want of this caution, which cannot be carried into execution without considerable expence, the ground over one of these floors sinks down, without the least notice, and at once kills and buries all that were below.

✓ Tin, in a pulverised state, is found only upon the banks of creeks and rivers, and open bays, after having been washed from some lodes that after lie bare to the sea,

The working of the tin mines is attended with the greatest labour and difficulty, not only by reason of the vast depth to which the miners are sometimes obliged to sink their shafts or pits, even so low as threescore fathoms; but also because the rocks they sometimes meet with, and through which a passage is to be cut, are so hard, that the workmen can scarce dig a foot in a week: the soft shaking earth of these mines, is also very troublesome to the miners, on account of the unwholesome vapours it exhales, and the currents of water that frequently issue out from it.

When the ore is dug, and drawn out of the mine, it is broke to pieces with large hammers, and then carried to a stamping mill, when it is pounded still smaller; and the water passing through, washes away the earthy parts, leaving the metallic ones behind: this done, it is dried in a furnace on iron plates, and ground to powder in a crasing mill; after which it is washed again, and dried; and, in this state, the metallic matter is called block tin. To convert it into white tin, or, properly speaking, into metal, it is carried to a furnace, or blowing-house, where, by means of a charcoal fire, kept up by a huge bellows, worked by water, it is smelted, and, when cold, it is forged, being the last operation through which it passes in the works.

Copper is no where found richer, or in greater variety of ores, than in Cornwall, tho' the

the mines have not been worked with much advantage longer than sixty years. The most common ore is of a yellow brass colour; but there is some green, some blue, some black, some grey, and some red; the green, blue, and black, yield but little; the grey retains more metal than the yellow; and the red more than the grey. There are besides, in almost all the considerable mines, small quantities of malleable copper, which the miners, from its purity, call virgin ore. This is combined and allayed with various substances; sometimes with base crystal, sometimes with a gravelly clay, and sometimes with the rust of iron: its figure is also very various; sometimes it is in thin plates, shaped like leaves; sometimes it is in drops and lumps; sometimes branched, fringed, or twisted into wires; sometimes it shoots into blades, crossed at the top like a dagger; and sometimes it has the appearance of hollow filagree: it has also been found in powder, little inferior in lustre to that of gold; in a congeries of combined granules, and sometimes in solid masses of several pounds weight, matured, unmixed, and highly polished.

The annual income to the county of Cornwall from copper is, at this time, nearly equal to that from tin, and both are still capable of improvement.

The water, in which the copper ore is washed, has been lately discovered to make blue vitriol of the best kind; and the water which

comes from the bottom of the mines, and which is now suffered to run off to waste, is so strongly impregnated with copper, that if it was detained in proper receptacles, it would produce great quantities of malleable copper, without any hazard or attendance, and without any other charge than the purchase of a much less quantity of the most useless old iron: for old iron, immersed in this water, will, in about fourteen days, produce much more than its weight of what is called copper mud; whence a great proportion of pure copper may be obtained.

One ton of iron, being thrown into a drain of a copper-mine in Ireland, produced in about a year, one ton nineteen hundred and an half weight of copper mud; and each ton of mud produced sixteen hundred weight of the purest copper; so that in this instance, the quantity of copper taken out of the drain was much greater than the quantity of iron put in.

In the copper-mines of Cornwall, silver has been frequently found; and gold, in small quantities, has been discovered sometimes in the tin ore. Cornwall produces also iron and lead.

Cornwall abounds with coarse granites of various colours, and different degrees of continuity. Here are some quarries of marble, and a stone called the warming-stone, which, once heated, will continue warm eight or ten hours; and is said to relieve several kinds of pain,

pain, especially that which arises from the internal hæmorrhoids. The swimming stone has also been found in a copper mine near Redruth, a town not far from St. Ives Bay, on the north coast: it consists of rectilinear lamina, as thin as paper, intersecting each other in all directions, and leaving unequal cavities between them; a structure which renders the stone so cellular as to swim in water.

Gems of several kinds have been found in the tin mines of this country, but so small as not to be critically examined without a microscope, particularly topazes, very highly coloured, rubies as red as a carbuncle, hyacinths and amethysts. Of crystals there is great variety, both figured and plain. Another product of this county is semi-metal, of which there is a great variety: bismuth, speltre, zink, naptha, antimony, lapis calaminaris, cobalt, a substance containing arsenic, zaffer and smalt; and mundic, called also marcasite, which contains arsenic, sulphur, vitriol and mercury.

In Devonshire there are mines of lead, tin, and silver. There has indeed been very little tin dug here of late times: yet in the reign of King John, when the tin coinage for the county of Cornwall was farmed at 66l. 18s. 4d. a year, that of Devonshire lett at one hundred pounds; and although the silver mines are not now regarded, yet, in the year 1293, they yielded no less than 370 pounds weight of fine silver. In the following year, they produced 521 pounds weight, and, in the next year 700 pounds.

D 3

Lead,

Lead, though found in various countries, abounds particularly in this; but of all the lead mines, those of Derbyshire and Somersetshire are the most remarkable. In Somersetshire is a tract of mountains, called Mendip-hills, which occupy a vast space of ground, and are the most famous in England, not only for lead, but coal mines; but the lead is less soft, ductile, and fusible than that of Derbyshire, and consequently not so proper for sheeting, because, when melted, it runs into knots. It is therefore generally exported, or cast into bullets and small shot.

The veins of some of the lead-mines upon these hills have been known to run up into the roots of trees, which, notwithstanding, looked as well at the top as the other trees. The ore in some places runs in a vein, and in other places it is found dispersed in banks, and lying between rocks: some of it is harder, and some softer. The clearest and heaviest ore is the best; and thirty-six hundreds of such ore yields about a ton of lead. When the miners have gathered a certain quantity of the ore, they beat it small, wash it in a running stream, and sift it in iron rudders. For melting it, a hearth or furnace, made of clay, or fire-stone, about five feet high, is so supported upon posts of timber, that it may be moved round like a wind-mill, to prevent the inconvenience of having the smoke blown upon the workmen: on the hearth are placed some young oaken gads, which are kindled with charcoal, and blown with bellows that are worked

worked by the feet: when the hearth is sufficiently hot, the lead ore is thrown into the fire, where, being melted, it runs down into a sink that is made at the sides of the hearth, and from thence it is taken out with an iron ladle, and cast into forms, which the miners call sows and pigs.

In the coal mines upon these hills, there are frequent fire damp, by which many have been killed, and others much burnt and maimed: some have been blown up at the mouth of the works, and the turn-beam, which hangs over the shaft, has been often torn off the frame by the force of the blast. At Collerton, north east of Ashby de la Zouch, in Leicestershire, there are some coal mines, which, in the reign of Henry the Eighth, burnt for many years together, till the sulphureous and bituminous matter, which fed the flame, was exhausted: and at Fennam, near Newcastle in Northumberland, some coal mines have been burning several years. The flames are very visible at night, and may be traced in the day, by the sulphur on the ground.

In Mendip hills there are also mines of copper and okre; and the lapis calaminaris, which, being melted with copper, turns it into brass, is dug up here in greater quantities than in any other part of England.

The beautiful fossil, called Bristol-stone, is found in great abundance in some rocks upon
the

the banks of the Avon, near the city of Bristol, both in Somersetshire and Gloucestershire. Bristol stones, before the composition called French paste was invented, were prized for their lustre, which came nearer to that of a diamond than any thing then known. The like stones are found also at Dunstburgh Castle, near Alnewick in Northumberland, and in some other parts both of England and in Scotland.

At Bishop's Chew, or Chew Magna, near Winton in Somersetshire, there is dug up a red bole, which is called by the country people Redding, and is distributed from thence all over England, for marking of sheep and other uses.

At Alderly, near Wotton under Edge, in the county of Gloucester, there are some hills, upon which a great number of stones are to be found in form of cockle and oyster shells. A variety of conjectures have been made concerning these stones. Some are of opinion that they are a *lusus naturæ*, and others that they are really the shells of fish thrown up here by the sea at the universal deluge.

At Dursley in this county, there is a rock of an incredible durability, and yet easily hewed, called Puff stone by the people in the neighbourhood, who, as a specimen of its durable quality, say, that the walls of Berkeley castle, not far from this place, which have very little appearance

pearance of decay, though they are near 700 years old, have been built with it.

In Gloucestershire, they are many rich mines of iron, and of all the iron works in England, those in the forest of Dean, in this county, are in most repute. The ore is found there in great plenty, differing much in colour, weight and goodness. The best, called Brush ore, is bluish, very ponderous, and full of little specks that shine like silver. This affords the great quantity of iron, but if melted alone, the metal is very brittle, and therefore not so fit for common use. To remedy this, they mix with it a due quantity of cinder, being the refuse of the ore, after the metal has been extracted: this gives it such an admirable temper of toughness, as makes it equal to any foreign iron. After the ore is dug up, the first business is to calcine it, which is done in kilns, much like the common lime kilns. These kilns are filled up to the top with coal and ore, a layer of each alternately; then setting fire to the bottom, it is suffered to burn till the coal is wasted; after which the kilns are supplied with fresh ore and coal, as before. This fire however does not melt the metal, but consumes the more drossy part of the ore, and makes it malleable, serving instead of the beating and washing used with other ores. After this operation, it is carried to the furnaces, which are built of brick or stone, about thirty feet high, and somewhat resembling the shape of an egg, being about ten feet wide in the middle, but
much

much narrower at the top and bottom. Behind the furnace are fixed two huge pair of bellows, and the noses of each meet at a little hole near the bottom: these are worked by a large wheel, turned by water, and are so contrived as to play alternately, the one giving the blast while the other is rising. The furnace is filled with ore and cinder, intermixed with charcoal, which being set on fire, the materials run together into a hard cake or lump; and the metal, as it melts, trickles down into receivers at the bottom of the furnace, where there is a passage open for the men to take out the scum and dross, and let out the metal, as they see occasion. Before the mouth of the furnace lies a great bed of sand, in which furrows are made of any shape; and when the receivers are full, the metal is let into them, which is rendered so very fluid by the violence of the fire, that it not only runs to a considerable distance, but keeps boiling a good while afterwards. In this manner the furnaces are constantly employed for many months together, never suffering the fire to slacken night nor day: but still pouring in at the top a fresh supply of ore and fuel, which in these works is always charcoal; and from hence the sows and pigs of iron, as they are called, are carried to the forges, where they are wrought into bars.

In Gloucestershire are also several coal mines; and at Taynton, a little village near Newent, a market town of this county, a gold mine was discovered about the year 1700, of which a lease

a lease was granted to a company of refiners, who extracted some gold from the ore, but did not go on with the work, the quantity of gold being too small, to answer the expence of the separation.

Upon the shore, under Beacon hill, near Harwich in Essex, is found the stone from which our common copperas is prepared, and which the people here for that reason call copperas stone. To prepare copperas from these stones, they are mixed with earth and disposed into light beds above ground, where they dissolve by the rains and dews. This solution is received into trunks properly disposed, which conduct it into a large leaden cistern, whence it is again conveyed into a leaden boiler, and after boiling some time it is drawn off into coolers, where it shoots into crystals. These stones are also found in some places on the coast of Kent, where there are works of the like kind for making copperas from them.

Lancashire is remarkable for mines of lead, iron, copper, antimony, and lapis calaminaris. Here is likewise great plenty of coal, and a particular kind called cannel or candle coal, which is chiefly found in the manor of Haigh, near Wigan, a large market town of Lancashire. This coal will not only make a much clearer fire than pit coal, but will bear a good polish; and, when polished, looks like black marble; so that candlesticks, cups, standishes, snuff-boxes and other toys, are made of it. In some of the coal

coal pits are found alum, brimstone and green vitriol. About Latham, in this county, is found a bituminous earth, which yields a scent much like oil of amber; and an oil may be extracted from it little inferior to that of amber in its most valuable qualities. The country people cut it into pieces, which they burn instead of candles.

Under the surface of the ground, in several parts of Staffordshire, are found yellow and red ochres, tobacco pipe clay, potter's clay, fuller's earth, and a sort of brick earth, which burns blue, and is supposed to be the earth of which the Romans made their urns. In this county are also found stones and minerals of various sorts, as fire stone for the hearths of iron furnaces and ovens, lime stone, iron stone or ore, the best kind of which is called mush, and is found at Rushall, near Walshall, a market town. This is the ore from which the best iron is extracted. Some of these iron stones are as big as the crown of a man's hat, and some of them, being hollow on the inside, contain about a pint of a sharp cold liquor, which is said to be very grateful to the taste, and of which the workmen are very fond.

At Wrottesley, north-west of Wolverhampton, in this county, have been found stones of a prodigious size, one of which after being hewn, is said to have made an hundred loads; and,

and another, after ten loads were cut off from it, required thirty yoke of oxen to draw it, and was made into a great cistern in a malt-house here, which wets thirty-seven strikes of barley at one time.

Besides plenty of turf and peat, pit coal and cannel coal, there is found at Henley-Green, near Newcastle-under-Line, in this county, a sort of coal called peacock coal, from its reflecting various colours like those of a peacock's tail.

But of all the coal counties in Great-Britain, Durham and Northumberland are certainly the most considerable. They abound with inexhaustible mines of pit coal, called Newcastle coal, from Newcastle, the port where the greatest part of it is shipped; and sea coal, because it is brought by sea to all ports of Great-Britain as well as to France, Flanders, and other countries: the trade of these counties in coal, therefore, is very great, London alone consuming near 700,000 chaldrons in one year. These counties abound also with iron and lead mines.

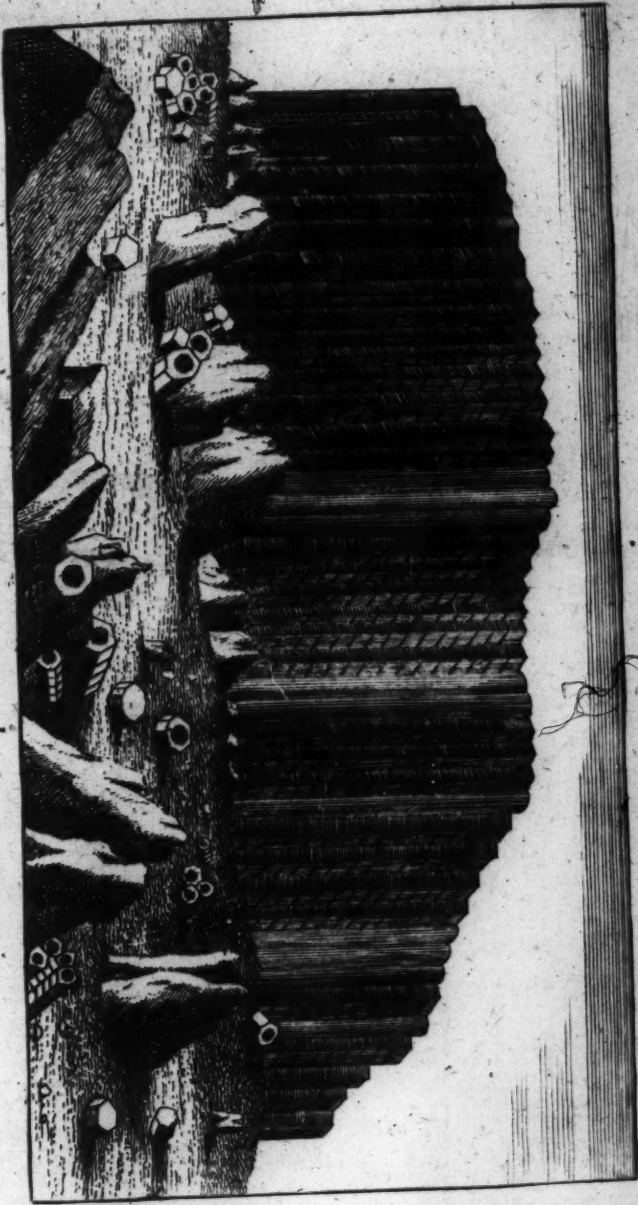
Shropshire abounds with mines of copper, lead, iron stone, and lime stone; and in this county are inexhaustible pits of coal. Between the surface of most of the coal ground and the coal, there lies a stratum of a black, hard, but very porous substance, which, being ground to powder in proper mills, and well boiled with

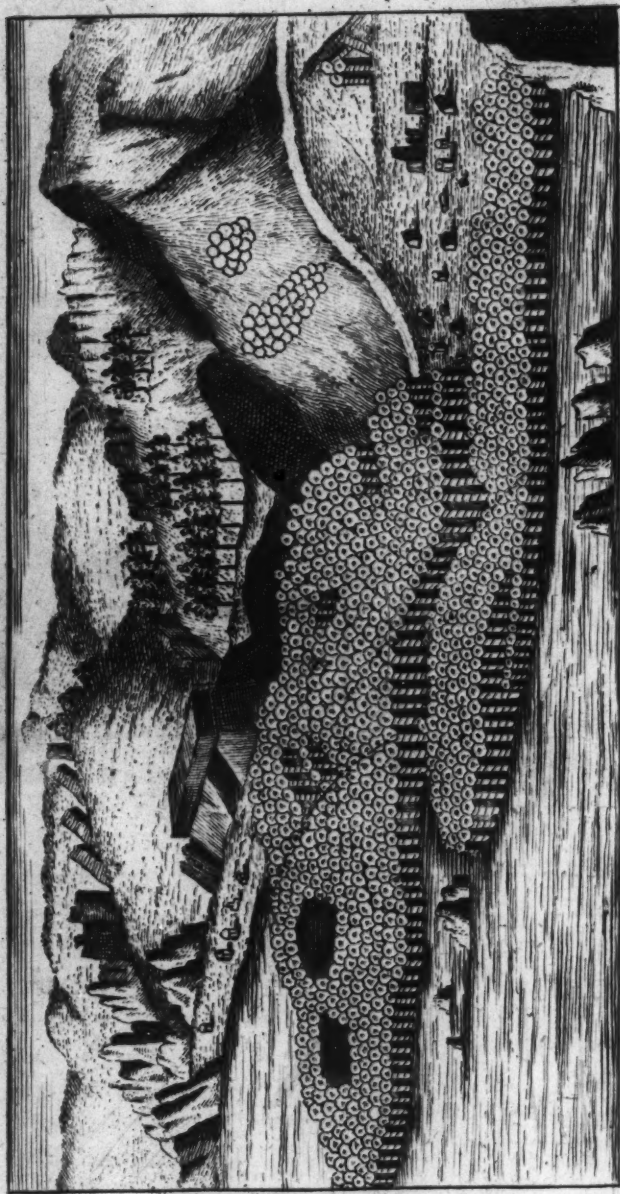
water in coppers, deposits the earthy or gritty part at the bottom, and throws up a bituminous matter to the surface of the water, which, by evaporation, is brought to the consistency of pitch: an oil is also produced from the same stratum by distillation, which, mixed with the bituminous substance, dilutes it into a kind of tar. Both these substances are used for caulking ships, and are better for that purpose than pitch or tar, for they never crack; and it is thought they might be useful against the worm.

In the Weald of Suffex, is found the mineral called talc; and in the eastern parts of the county, towards the borders of Kent, is dug great plenty of iron ore; and though the iron found in this county is said to be brittle, yet cannons are frequently cast with it.

Several counties in Scotland abound with coal and lead mines, particularly Lanerkshire, where, in two places, called Crawford Moor, and Fryar Moor, are also found a great deal of gold dust, after violent rains: nay, several pounds of pure gold are said to have been found here, and in other parts of this country. One piece, of near an ounce weight, is said to have been found lately by a lead-washer, at a place called Wandlohead; and not many years ago, another piece, upwards of an ounce weight, was found at Leadhills. From a manuscript, which was written in the reign of James the sixth of Scotland, by one Mr. Achinson, assay-master

An Eastern View of the Giant's Causeway.





The GIANT'S CAUSWAY.

master of the mint at Edinburgh, and is still preserved in the advocate's library in that city, it appears, that some workmen found two pieces of gold within two feet of the surface, in Leadhills, one of which weighed six ounces, and the other five. It is also said, that pure native silver has been found in veins in this country, which from their breadth, course, and situation, would, if properly worked, be found as rich as perhaps any in the world.

One of the greatest natural curiosities in the fossil kingdom, is an immense pile of hard, black, columnar marble, found by the sea side in the county of Antrim in Ireland, about eight miles from Colerain, and called the giant's causeway, from a vulgar opinion of its being artificial, and the work of giants. But this pile appears to be natural, and consists of a vast quantity of a kind of black marble, called Basaltes, and Lapis Lydius, by the antients, which stands in columns, as is natural to that marble. How far it runs into the sea is not known, but at low water, it is visible at least 600 feet in length, and it is from 120 to 240 feet in breadth. Whoever considers the amazing series of columns, of which this vast mass consists, will be soon convinced, that no human hands could have formed them, and will find an accuracy in their figures, greater than could be expected from the most curious hand: the length of the several columns, their joints so regularly placed in series, and the niceness of their articulations, by which no space or vacuity

is left between, is truly wonderful. The single columns of this vast pile consist sometimes of eight, sometimes of seven, but generally of five sides; and when examined are found just such as must necessarily be required, in the places where they stand, to fill up between others, so as to leave no vacuity. Each of these columns is composed of a series of joints; and each joint is so well fitted to the place, that the joining appears only a crack, or crevice in the stone; yet these are regularly articulated; there being always a ball on one part, and a socket in the other, to receive it, so that the joints cannot slip off from one another. The triangular and square columns are fewer in number than the rest; but they stand principally in the inner part of the large series, and are seldom seen, unless searched after by a curious eye. The regular figure of the stone composing this causeway, is not more wonderful than its quantity: for besides what commonly passes by the name of the giant's causeway, there are great numbers of the pillars at distances in other places. The vast height of these strait jointed pillars, especially of the more slender and perfect ones, is amazing; forty feet is a very considerable height for a pillar of perhaps less than a foot diameter; yet this is far from being the whole real length of the pillar: for this appears above-ground; but what is buried in the earth is not known. The joints of the pillars above the surface, are usually as many in number as the pillar is feet high, but they are not regularly each a foot long, being shortest at the upper part

part of the columns, and running gradually longer and longer as they approach the base.

Besides those already mentioned, which are some of the most useful and curious native fossils found in the British islands, there are other extraneous substances of an adventitious or foreign kind, which have not been generated in the earth, but repositied there by earthquakes, deluges, or some other extraordinary catastrophe: these are trees, plants, shells, bones, teeth, &c. both of sea and land animals, which are found in great abundance in several parts of the earth, and which excite curiosity, and afford matter for much speculation and enquiry.

On each side of the river Kennet, near Newbury, in Berkshire, there is a stratum of peat, which is from about a quarter to half a mile wide, and many miles long. Peat is a composition of the branches, leaves and roots of trees, with grass, straw, plants and weeds, which, having lain long in water, are formed into a common mass, so soft as to be cut through with a sharp spade. The colour is a blackish brown, and it is used for fuel: the depth below the surface of the earth, at which it is found in this place, is from one foot to eight. Great number of intire trees are found lying irregularly in the true peat; they are chiefly oaks, alders, willows, and firs, and appear to have been torn up by the roots. Many

horses heads, and bones of several kinds of deers, the horns of the antelope, the heads and tusks of boars, and the heads of beavers, are also found in it. Not many years ago, an urn, of a light-brown colour, large enough to hold about a gallon, was found in the peat-pit in Speen-moor, near Newbury, at about ten feet distance from the river. And four feet below the level of the neighbouring ground, just over the spot where the urn was found, an artificial hill had been raised, about eight feet high; and as this hill consisted both of peat and earth, it is evident that the peat was older than the urn.

Near Reading, in the same county, a continued stratum, or layer, of oyster-shells, is found at a great depth from the surface of the earth, and between forty and fifty miles from the sea: they lie in a bed of greenish sand, upon a hard rocky chalk, and are often dug out entire by the men who work in the chalk-pit. The shells are brittle, and easily separated from each other.

In the morasses or mosses of Cheshire, whence the country people cut their turf or peat for fuel, there are marine shells in great plenty, pine cones, nuts and shells, trunks of fir-trees, with many other adventitious substances. The fir trees are so full of turpentine, that they are cut into slips, and used instead of candles. Many of these trees appear plainly to have been burnt; some of them are burnt quite through,

and others only on one side: some also have been found with the plain marks of human work upon them; many with their branches lopt off, and their trunks cut into two or three pieces, some squared, and others in part cleft, the wooden wedges used in cleaving them being still found remaining in the cracks. Stones are found in some of them in the place of wooden wedges, but iron in none. The heads of axes have however sometimes been found among them: they are of a strange form, and not unlike the sacrificing axes of the antients; and under some of these trees Roman coins have been found. The most remarkable circumstance is, that the depth to which these trees are now sunk, appears, in most bogs, to have been the original surface, the ground not being loose like that above it, but sound and firm, and lying in ridges and furrows, with the evident marks of having formerly been ploughed; so that all the bog earth above seems plainly to have been added since.

But the sea-shells, and other marine substances, found far distant from sea, buried at great depths in the earth, and often immersed in the hardest stones, are objects of greater wonder, and much more difficult to be accounted for. Of these, some are found remaining almost entirely in their native state, but others are variously altered, by being impregnated with particles of stone, and of other fossils; in the place of others, there is found mere stone, or spar, or some other native mineral body, expressing all
their

their lineaments with the greatest nicety, as having been formed wholly from them. The various species we find of these shells, are in many genera, as numerous as the known recent ones; and as we have in this kingdom not only the shells of our own shores, but those of many other very distant ones, so we have also many species, and those in great numbers, which are, in their recent state, the inhabitants of yet unknown or unsearched seas and shores.

It has been the favourite system of Dr. Woodward, that all these shells were the remains of the universal deluge, which, having overflowed the whole earth, might easily leave them in all places: but Mr. Reaumur has much more rationally accounted for their coming to those parts of France, where they are found at this time in such vast abundance, by carefully tracing the course of the beds of them, so far as known there, and easily proving, that all that extent of country under which they are found, may have been once overflowed by the sea, without a deluge; it being the very track, that a large body of waters let in at one part of the kingdom must have taken, in order to flow out at another.

There is a certain genus of extraneous fossils found in many parts of Britain and Ireland, of so singular a nature, that they merit particular notice. This genus is called the *Entrochi*, and is found of all sizes, from that of a pin's head to a finger's length, though they are more usually

usually about an inch in length, and the thickness of one's middle finger: they are made up of a number of round joints, which, when separate and loose, are called trochitæ, and vulgarly, St. Cuthbert's beads. These are plainly of marine origin, having often sea shells adhering to them, and are composed of the same kind of plated spar with the spines or shells of the echinus, centronia, or sea hedge-hog, or sea egg, which is usually of a bluish grey colour, and very bright where fresh broken: they are all striated from the center to the circumference, and have a cavity in the middle. They appear to be the petrified arms of that singular species of the sea star-fish, called *stella arborescens*, though several naturalists have supposed them of a vegetable nature, and called them rock plants. The trochitæ, or single joints of the entrochus, are found in some places in such vast numbers, as to make several naturalists suspect, that they could never have been so strangely collected together, if ever they had been of animal origin; but this appears to be one of the many rash conclusions of modern naturalists.

These fossils are chiefly found in Mendip hills, and in some parts of Yorkshire. Other extraneous fossils, frequently found in many parts of this island, are the astroites, or star-stones, so called from their resemblance to a star; and the Cornu Ammonis, called serpent, or snake-stones, by the vulgar. The astroites are found at Laffington, a village near the city of

of Gloucester, at Shugborough, in Warwickshire, at Belvoir castle, in Lincolnshire, and several other parts of Great-Britain and Ireland. Some have supposed the astroites to be parts of a petrified marine animal; but the most general opinion is, that they are species of corals: they are striated from the center to the circumference, and their radii are sometimes prominent above the surface of the mass. Sometimes they are level with it, and sometimes they sink below it: they are of a greyish colour, and of a very regular form, consisting of several thin pentagonal joints, set one over another, so as to make a kind of five-angled column. The Cornu Ammonis, or Hammonis, so called from their resemblance to a ram's horn, Jupiter Ammon being worshipped by the ancient Lybians under the form of a ram, are found of all sizes, from the breadth of a silver sixpence to two feet in diameter; some of them are round, and others greatly compressed, and lodged in different strata of stones and clay; some again are smooth, and others ridged in different manners; their striæ or ridges being either straight, irregularly marked, or undulated. This genus belongs undoubtedly to the cochlea kind of shells. Both these fossils being immersed in vinegar, or any other strong acid, will move about for a considerable time, as if they were alive; the reason of which is, that the acid, by insinuating itself into their pores, makes way for the introduction of a warmer air than what was lodged there before, which, being immediately dilated, and struggling to disengage itself, occasions a tremulous motion in those bodies.

M O U N T A I N S.

THAT part of Great-Britain which lies towards the western ocean, is generally the most mountainous, particularly Cornwall, Wales, and the Highlands of Scotland: there are, however, some considerable mountains in other parts of the island.

On the borders of Scotland is a range of mountains called the Cheviot-hills, which are so high, especially on the north side, that snow may be seen in some of their cliffs till Midsummer: they serve as a land-mark at sea; and the highest of them resembles at a distance the famous Peak of Teneriff, and may be plainly seen above sixty miles. On the top of this mountain, there is a smooth pleasant plain, about half a mile in diameter, with a large pond in the middle of it.

It is observed, that the air upon Mendip-hills, in the county of Somerset, is moist, cold, foggy, thick and heavy. Snow, frost and dews, continue longer upon these hills, than on any part of the neighbouring grounds, except near the mines, where the snow soon melts; and thunder-storms, nocturnal lights and fiery meteors, are more frequent on these hills than any where else in the county.

Near Glastonbury, in Somersetshire, is a hill, called the Torr, which rises like a pyramid

mid to a great height, and serves as a land mark to seamen; and, near Chedder, in the same county, are two rocks, called Chedder Cliffs, and between them a frightful chasm, the sides of which are near three hundred feet high; through this chasm is the road from Axbridge to Bristol; and from the bottom of one of the hills issues a stream so rapid, that it is said to drive twelve mills within a quarter of a mile of the spring.

That part of Derbyshire west of the river Derwent, is a rocky mountainous tract, called the Peak of Derby. Here are some prodigious high mountains, one of which, called Mar Tor, though it is perpetually mouldering away, and the earth and stones are falling from the precipice above, in such quantities, as sometimes to terrify the neighbouring inhabitants with the noise, is yet of such an enormous bulk, that the decrease is not to be perceived. This mountain is reckoned one of the curiosities of the Peak, which, being seven in number, are called the Seven Wonders of the Peak, and will be described each in its proper place.

On the east side of the river Derwent, and near the Peak, is a vast pile of rocks, 420 feet high, called the Torr, under which are several little cottages.

Cumberland is a very mountainous county; the south part of the county, called Copeland, is a tract of steep ragged mountains, like the Peak

Peak of Derby, and like that abounding with minerals of various sorts, and particularly copper. The mountains in this county, most remarkable for their height, are those of Wrynose, of Skiddaw, of Lauvelling, of Castinand, of Hard-knot and Cross Fells. Skiddaw rises with two prodigious heads, from which there is a view of another tall mountain, known by the name of Scroffel-hill, in a district of Scotland, called Annandale, where the people prognosticate the change of weather by the mists that rise or fall upon the head of this mountain.

Caernarvonshire in Wales is remarkable for vast mountains, rocks and precipices, which, towards the middle of the county, swell one above another, so as to have acquired the name of the British Alps. The tops of many of these mountains, during eight or nine months in the year, are covered with snow, and on some of them the snow is perpetual, whence they are called Snowdon-hills; and upon these hills it frequently snows, while it only rains in the valleys.

Klogwyn Karnedh y Wydhva, a mountain on the east side of the town of Caernarvon, is by some esteemed the highest in all Britain. From this spot may be seen parts of England, Scotland, Ireland, and the Isle of Man.

Pen maen mawr, near Aberconway, in Caernarvonshire, is a vast mountain or rock, that

rises perpendicularly over the sea to an astonishing height. About the middle of the rock and on that side of it next the sea, there is a road seven feet wide for passengers, at the perpendicular height of 240 feet above the level of the sea, and as many feet below the top of the rock; and on the side of the road next the sea there is a wall breast high, which was built not many years ago, and to the building of which the city of Dublin contributed. On the other side of the hill there is a narrow footway, over which the top of the rock projects, so as to form a very extraordinary and frightful appearance to the travellers below.

Glyder is another very high mountain on the sea side, not far from Pen maen mawr, and is remarkable for a prodigious heap of stones, of an irregular shape, on its summit: they lie in such confusion, as to resemble the ruins of a building; some of them reclining, and some lying cross one another, a phænomenon which has never yet been perfectly accounted for. On the west side of this mountain, there is, among others, one very steep and naked precipice, adorned with a vast number of equidistant pillars; the interstices between which are supposed to have been the effects of a continual dropping of water down the cliff, which is exposed to a westerly wind: but why the water should have dropped at these regular distances, before the hollows were formed, we are not told; possibly the whole mass of the rock may consist of vast bodies of stone, with earthy matter between them; and if so, the rain may

have washed away the sand or earth between the stony and solid parts of the mass on the top and the sides, and thus formed the appearance of ruins above, and pillars below, which may be considered as skeletons of these parts of the mountain.

The chief mountains of Scotland are the Grampian mountains, which run from east to west, from near Aberdeen on the German ocean, to Cowal in Argyleshire, almost the whole breadth of the island. The second remarkable chain of mountains are those of Lennymoor, stretching from the eastern coast in the Mearns a great way west. Next to these are the Pentland-hills, which run through Lothian, and join the mountains of Tweeddale; and these again are joined by others, which traverse the whole breadth of Scotland. Other mountains worthy of note are Drumbender law, and North Berwick law, both in East-Lothian; Arthur's seat, in Mid-Lothian; Cairnnapple, in West-Lothian; Tentock, in Clydesdale; Binmore, in Argyleshire; the Ochel mountains, and Largo law, in Fifeshire; Dundee law, in Angus; Weeves, in Ross-shire; the Ord, in Caithness; and the Hoy, in the Orkney islands.

Ireland is not remarkable for mountains; though there are some, particularly the mountains of Mourne and Sliew-Donagh, in the county of Down. Sliew-Donagh is near half a mile in perpendicular height, and three miles in the gradual ascent from the bottom to the

top. Other mountains in this island are Knockpatrick, on the west side of the county of Limerick; Sliew-Bloomy, in Queen's county; Sliew-Gallen, in the county of Tyronne; Cirlow hills, in the county of Roscommon; and Gnally mountains, in Tipperary.

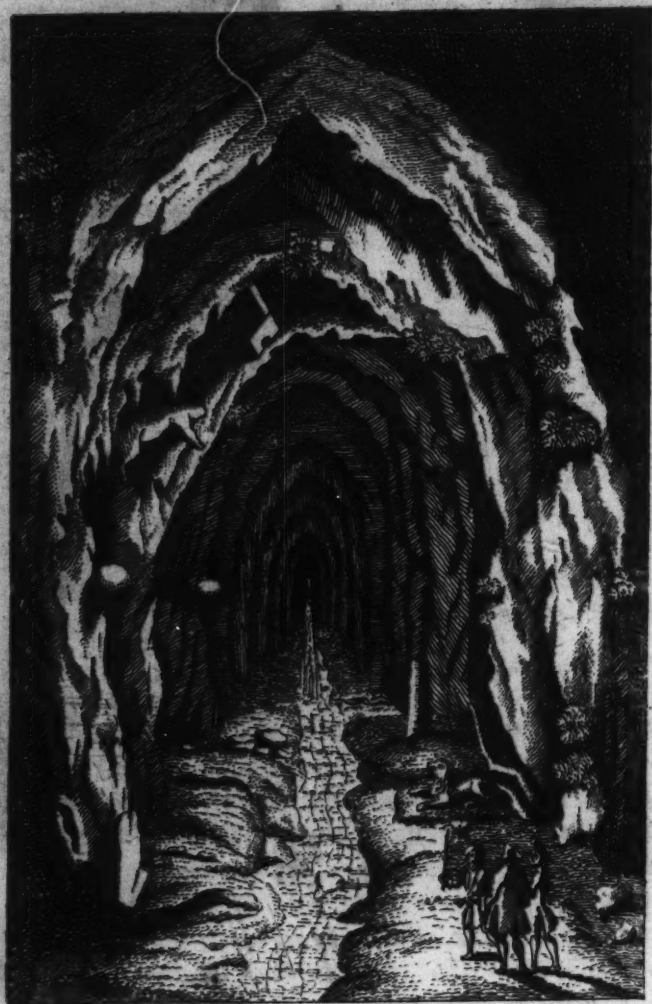
C A V E R N S.

THE most remarkable part of Great Britain for natural curiosities of this kind is the Peak of Derby, where there are three caverns, distinguished by the names of Eden-Hole, Pool's Hole, and the Devil's Arse, reckoned three of the seven wonders of the Peak.

Eden Hole is a vast chasm in the side of a mountain, near a market town, called Chapel in the Frith. It is twenty-one feet wide, and more than forty feet long. In this chasm, or cave, appears the mouth of a pit; the depth of which could never be fathomed. A plummet once drew 884 yards, which is something more than half a mile of line after it, of which the last eighty yards were wet, but no bottom was found. Several attempts to fathom it have been since made, and the plummet has sometimes stopped at half that depth, owing probably to its resting on some of the protuberances that stood out from the sides.

That

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POOL'S HOLE.

That such protuberances there are is proved by an experiment constantly made to shew its greath depth to those that visit the place, by the poor people that attend them, who always throw some large stones down into it, which are heard to strike against the irregularities of the side with a fainter and a fainter sound till at length it is gradually lost. The earl of Leicester, in the reign of queen Elizabeth, hired a poor wretch to venture down in a basket, who, after he had descended 200 ells, was drawn up again; but, to the great disappointment of the curious enquirer, he had lost his senses, and in a few days after died delirious. The cavern in which this pit is found is contracted within the rock, and water is continually trickling from the top, where it also forms sparry concretions.

Pool's Hole is a cave, said to have taken its name from one Pool, a notorious robber, who, being outlawed, secreted himself here from justice: but others will have it, that Pool was some hermit, or anchorite, who made choice of this dismal hole for his cell. It is situated at the bottom of a lofty mountain, called Coitmoos, near Buxton, a village famous for its medicinal waters, which are also reckoned one of the wonders of the Peak. The entrance into this cave is by a small arch, so very low, that such as venture into it are forced to creep upon their hands and knees; but it gradually opens into a vault, more than a quarter of a mile long; and, as some have pretended, a quarter of a mile

high. It is certainly very lofty, and somewhat resembles the inside of a gothic cathedral. In a cavern to the right, called Pool's chamber, there is a fine echo, and the sound of a current of water, which runs through the middle of the great vault, being reverberated on each side, very much encreases the astonishment of all who visit the place. On the floor, are great ridges of stones. Water is perpetually distilling from the roof and sides of this vault, and the drops, before they fall, produce a very pleasing effect, by reflecting numberless rays from the candles carried by the guides: they also, from their quality, form crystallizations of various figures, like those of fret-work; and, in some places, having been long accumulating one upon another, they have formed large masses, bearing a rude resemblance to men, lions, dogs, and other animals; and to organs, lanthorns, and flitches of bacon.

In this cavity is a column as clear as alabaster, called Mary Queen of Scots Pillar, because it is pretended she went in so far, while she remained a prisoner for seventeen years at Chatsworth house in this neighbourhood. Beyond this pillar there is a steep ascent for near a quarter of a mile, terminating in a hollow in the roof, called the Needle's Eye, in which, when the guide places his candle, it looks like a star in the firmament. If a pistol be fired near the Queen's Pillar, the report will be as loud as a cannon. There is another passage by which people generally return. Not far from
this

this place are two springs, one cold and the other hot; but so near one another, that the thumb and finger of the same hand may be put into both streams at the same time.

The Devil's Arse, unaccountably so called, and sometimes the Peak's Arse, is a cavern that runs under a steep hill, about six miles north west of Tideswell, a market town, by an horizontal entrance, sixty feet wide, and something more than thirty feet high. The top of this entrance resembles a regular arch, chequered with stones of different colours, from which petrifying water is continually dropping.

Here are several huts, which look like a little town, inhabited by a set of people, who seem in a great measure to subsist by guiding strangers into the cavern, which opens at the extremity of this entrance. The outward part of this cave is very dark: it is also rendered very slippery, by a current of water running across the entrance; and the rock hangs so low, that it is necessary to stoop, in order to go under it: but having passed this place, and another current, which sometimes cannot be waded; the arch opens again to a third current, near which are large banks of sand; a little beyond which the rock closes.

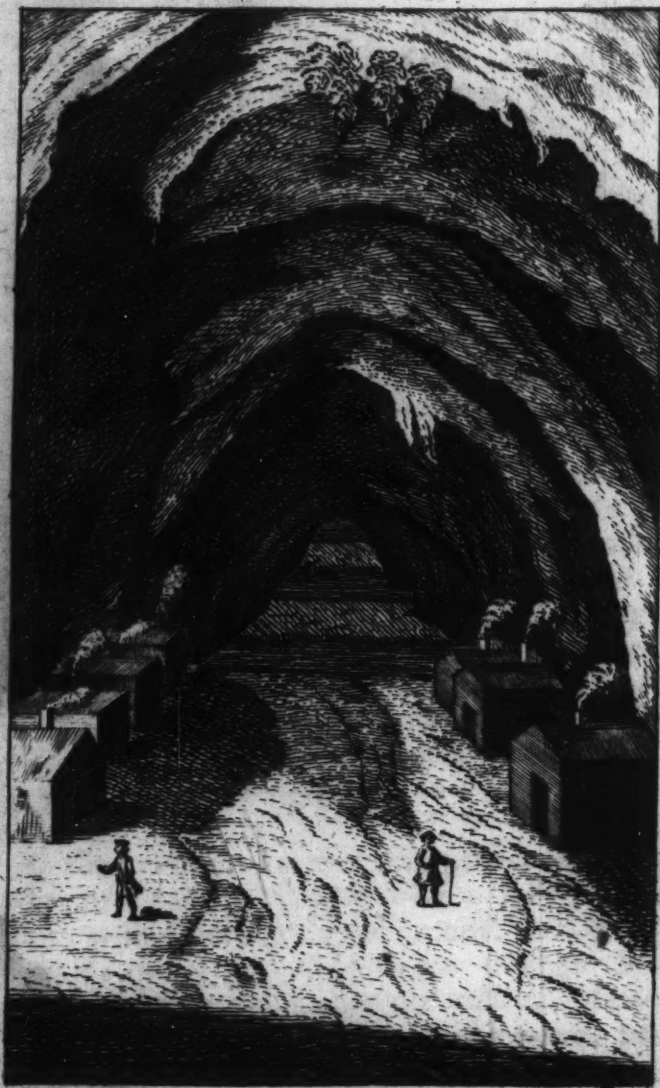
On the south side of Mendip hills, near a place called Wokey, within half a mile of the city of Wells in Somersetshire, is a very remarkable cave, known by the name of Wokey Hole.

Hole. The entrance to it is parallel to the horizon, at the bottom of a rock 180 feet high ; and over the rock is a steep mountain, whose top is thought to be a mile above the bottom of the rock. On entering the cave we perceive a steep descent of fifty or sixty feet ; the cave itself is about two hundred feet in length, in some parts fifty or sixty feet broad, in others, not above ten or twelve ; and the greatest height is about fifty feet, though in some places the roof is not above four or five feet from the bottom. There are several partial divisions of it, which the imaginations of people have distinguished into a kitchen, a hall, a dancing-room, a cellar and other apartments ; and water of a petrifying quality being continually dropping from the roof, and forming a variety of stony figures, fancy has improved them into resemblances of old women, dogs, bells, organs, and other things. The echo of any noise within this cavern is so strong, that a large stone, such as a man may lift up without much difficulty, being dropped on the rocky bottom of the cave, sounds with a noise as loud as the report of a cannon.

At the extremity of this cave, there issues a stream of water sufficient to drive a mill ; and passing with great rapidity and noise, the whole length of the cavern, it bursts out through the rock near the entrance into the valley. Here are always people ready, for a small reward, to attend strangers with lights.

Among

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The DEVIL'S ARSE.

Among the natural curiosities of Cornwall is reckoned a cavern, called Kynan's Cove, situated one mile and a half north-west from the Lizard Point: the way down to it from the hill is extremely rugged and narrow, being only a single track, worn by the horses that carry sand. The sand of the cove, which is entered by this path, is partly of a light colour, and partly glittering; it is dispersed in many winding passages among rocks, and vast masses of the cliff, which lead to different grotts of various size and figure. The crevices in the rocks, which are seldom more than the twentieth of an inch wide, are full of a smooth unctuous substance, resembling bees wax, both to the sight and touch; and between the rocks, on the eastern side, there are a few small veins of the white and red marbled clay, which, from its resemblance to tallow, called by the Greeks *stear*, has obtained the name of *Steatites*.

About half way between the river Severn and the city of Bristol, in the county of Gloucester, there is a pit in a rock, whence lead-ore was formerly dug, called Pen Park hole: the descent is narrow, in form of a tunnel; being about two yards wide, and almost forty deep; having passed through the rock, it opens into a cave seventy-five yards long, forty-one broad, and nineteen high. In this cave there is a pool of sweet water, twenty-seven yards long, twelve broad, and five and a half deep.

Near

Near Penrife, in Glamorganshire, there is a promontory, which is the most westerly point of the county, and is called Warmthead Point: it stretches about a mile into the sea, and, at half flood, the isthmus, which joins it to the main land, is overflown, so that it becomes then a small island. Towards the extremity of this point, there is a small cleft or crevice in the ground, into which, if dust or sand be thrown, it will be blown back again into the air; and if a person applies his ear to the crevice, he will hear distinctly a deep noise, like that of a large pair of bellows: these phænomena are attributed to the undulatory motion of the sea, under the arched and rocky hollow of this promontory, which occasions an alternate inspiration and expiration of the air through the cleft.

At Oxenhall, a village in the county of Durham, between Darlington and the river Tees, there are three large deep pits, full of water, called Hell Kettles, and by the common people thought to have no bottom. But it has been lately found by a later account that the depth of the deepest is not above thirty yards: the most probable opinion, therefore, seems to be, that they are old coal pits, rendered useless by the rising of water in them.

**MEDICINAL HOT AND COLD SPRINGS, and
other SINGULAR SPRINGS and LAKES.**

THE most famous springs in this island are those of the city of Bath in Somersetshire, which took its name from its natural hot baths, for the medicinal virtues of which it has been long celebrated, and much frequented. There are in this city five hot baths, called the King's Bath, the Queen's Bath, the Cross Bath, the Hot Bath, and the Leper's Bath: there is also a cold bath. In each bath there is a pump for applying the water in a stream upon any particular part of the body, when it is required; and each is furnished with benches to sit on, rings to hold by, and proper guides for both sexes.

The King's Bath is sixty feet square, and supplied by many hot springs that rise in the middle of it. Contiguous to it is a neat pump-room, where the company meet to drink the water, which is conveyed from the springs, as hot as it can be drank, by a marble pump. There is in the middle of this bath a figure of an antient British King, called Bleyden, the soothsayer, with an inscription, importing, that he discovered the use of these springs three hundred years before the Christian æra.

The Queen's Bath is separated from the King's Bath by a wall only. It has no spring,
but

but receives its water from the King's Bath, and is therefore less hot.

The Cross Bath had its name from a cross that formerly stood in the middle of it. It is of a triangular form, and its heat is also less than that of the king's bath, because it has fewer springs. This bath, which is the most frequented by persons of quality, was covered by James earl of Marlborough. On one side is a gallery, where gentlemen and ladies stand and converse with their friends in the bath. On the opposite side is a balcony for music, which plays all the time of bathing; and in the middle there is a marble pillar, adorned with curious sculptures, erected at the expence of the earl of Melfort, in compliment to king James the second and his queen, and in memory of their meeting here. The guides of this bath say, that, in a strong westerly wind, a cold air blows from the springs: but when the wind is easterly, and the weather close, with a small rain, the water is so hot as scarce to be endured, though the king's bath and the hot bath are then colder than usual. It is also observed, that, in hot weather, a large black fly is frequently seen in this bath, and said to live under water, and to come up from the springs. This bath will fill in fifteen or sixteen hours, and is more temperate than the king's bath, or the hot bath; the water is said to corrode silver.

The

The Hot Bath was thus called from its having been hotter than the rest: but it was not then so large as it is now.

The Lepers Bath is formed from the overflowings of the cross bath; and is allotted for the use of the poor people supported by the charity of the place.

The Cold Bath is supplied by a fine cold spring, and was erected by subscription not many years ago.

It is remarkable, that, on cleansing the hot springs, or on setting down a new pump, great quantities of hazle nuts are always found swimming upon the surface of the springs, and leaves, like those of olive trees, come sometimes with the water out of the pump of the hot bath. Some writers have thought them relicks of the universal deluge.

These hot springs were fenced in by the Romans, when they were in possession of this country, with a wall, to separate them from the common cold springs, with which this place abounds; and there is a tradition, that they also made subterranean canals, to carry off the cold waters, lest they should mix with these. It is certain, that this place was in the greatest estimation among the Romans for these waters. Ptolemy calls them *ῥῥατα ὁρεα*. i. e. 'hot waters', and Antoninus styles them, *Aquæ solis*, i. e. 'Waters of the Sun. The

Saxons called this city *Accmannercearpen*, 'the city of valetudinarians.'

As Bath lies in a valley surrounded with hills, the heat of these waters, and their milk detergent quality, are ascribed to the admixture and fermentation of two different waters distilling from two of those hills, one called Clarton-down, and the other Lansdown. The water from Clarton-down is supposed to be sulphureous, or bituminous, with a mixture of nitre; and the water from Lansdown is thought to be tinged with iron ore. These waters are grateful to the stomach, have a mineral taste and a strong scent; they are of a bluish colour, and send up a thin vapour; they are neither diuretic, nor cathartic, though if salt be added, they purge immediately. After long standing, they deposit a black mud, which is used by way of cataplasms, for local pains, and proves of more service to some, than the waters themselves. This mud also they deposit on distillation. They are beneficial in disorders of the head, in cuticular diseases, in obstructions and constipations of the bowels, which they strengthen by restoring their lost tone, and in most diseases of women and children; and are used as a last remedy in obstinate chronic diseases, which they sometimes cure.

The seasons for drinking the Bath waters are the spring and autumn; the spring season begins with April, and ends with June; the autumn season begins with September, and lasts till Decem-

December; and some patients remain here all the winter. In spring, this place is most frequented, for health; and in the autumn, for pleasure; when at least two thirds of the company come to partake of the amusements of the place. In some seasons, there have been no less than 8000 persons at Bath, besides its inhabitants. There is an officer put in by the mayor of the city, to superintend the baths, and keep order among the bathers and their guides.

The city of Bristol is also famous for a medicinal hot spring, which rises near the river Avon, about a mile from the city, and is very much frequented from April to September. The water of this spring is thought to be impregnated with chalk, lapis calcarius, and calaminaris. It is lighter than other water, clear, pure and soft, and has a gentle degree of heat. It is prescribed for internal hæmorrhages and inflammations, spitting of blood, dysentery and immoderate fluxes of the menses, diabetes and purulent ulcers of the viscera. It is not only drank at the Pump-room, but every morning cried in the streets of the city like milk, retaining its virtue longer than any other medicinal water. Near the well there is a house built, with an assembly-room, and convenient lodgings.

Buxton Wells, mentioned already as one of the seven wonders of the Peak of Derby, are also celebrated for their medicinal qualities.

These waters rise from nine springs; and it is remarkable, that within five feet of one of the hot springs, there is a cold one. The use of these waters, both by drinking and bathing, is much recommended; and the wells are, therefore, much frequented in the summer. The bed, or soil, from which they issue, is a kind of marble; and they are said to be sulphureous and saline; yet they are neither foetid nor unpalatable, because the sulphur is not united with any vitriolic particles, and but with few that are saline: for the same reason, they do not tinge silver, nor act as a cathartic. When drank, this water creates a good appetite, removes obstructions, and if mixed with the chalybeat water, with which this place abounds, it answers all the intentions of the Bath and Bristol waters. The use of Buxton water, by bathing, has been recommended by physicians in all scorbutic, rheumatic, and nervous disorders.

These wells are inclosed within a handsome stone building, erected by George, earl of Shrewsbury. Here is a convenient house for the accommodation of strangers, built by the duke of Devonshire. There is a Bath-room, arched over head, and rendered handsome and convenient. The bath will accommodate twenty persons at a time, to walk and swim in. The temper of the water is blood warm, and it may be raised at pleasure to any height. Mary, queen of Scots, who was here for some time, took

took her leave of it, in the distich of *Cæsar* upon *Feltria*, varied thus :

*Buxtona, quæ callidæ celebrabere nomine lymphæ,
Forte mihi posthac non adeunda, vale.*

At *Matlock*, a village upon the banks of the *Derwent*, ten miles north-west of *Derby*, there are several warm springs, called *Matlock wells*. The waters of these springs are used both internally and externally : internally, they are said to attenuate, heat, and rarify the blood ; externally, they are recommended in the rheumatism, and all disorders of the skin. To accommodate those who are directed to use them externally, a bath has been constructed, inclosed in a proper building, lined with lead, and large enough to receive eight or ten persons at a time, who descend into it by steps. The water that supplies this bath, which is but just milk warm, issues from a rock in a most delightful plain, about a mile in circumference, surrounded by rocky hills, and a rapid stream. These wells are now much frequented.

There are some other medicinal springs in this county ; one at *Stanley*, a village on the north side of *Bolsover*, a market town ; another at *Quarndon*, a village near *Derby*. Both these are chalybeat, and much frequented. At *Kedleston*, near *Derby*, is a well said to be of singular virtue in healing old ulcers, and curing the leprosy ; and near *Wirksworth*, a market town of this county, there are two
G 3 springs

springs, the one hot, and the other cold, not two feet distant from each other.

About four or five miles south of Tunbridge in Kent, are Tunbridge wells, the water of which is a chalybeat, and is said to be of great efficacy in cold chronical diseases, in weaknesses of the nerves, and a bad digestion. The principal well is walled in, and paved like a cistern; and there are two paved walks running from it, in one of which is a long covered gallery for a band of music, and for the company to walk under in bad weather; and there is also a row of shops and coffee-rooms, and a public room to dance in. The season for drinking the waters, is the months of June, July, and August.

At Bromley, a market town of Kent, there is a mineral spring, the water of which has been found, upon a chemical analysis, to contain the same qualities as the Tunbridge water, in a greater degree.

Scarborough, a borough town of Yorkshire, is famous for a medicinal spring, which rises at the foot of an exceeding high cliff, about a quarter of a mile south of the town. It is in a sandy soil, near the level of the spring tides, by which it is often overflowed. The water of this spring is very transparent, and of a sky-blue colour: it has a pleasant taste, and an inky smell; and is found to be impregnated with vitriol, alum, nitre, and salt; it is pur-

purgative and diuretic, and recommended for removing obstructions, and for disorders that proceed from too slow a motion of the blood: it attenuates gross, fizy, and mucous humours, and sheaths, sweetens, and hastens the expulsion of all acrid, acid, or sharp humours: hence it becomes beneficial in the jaundice, in inflammations, or a schirrhus; in the spleen; in hysteric cases; in a cachexy; in an incipient dropsy; in preventing apoplexies, palsies, and lethargies; in arthritic, and rheumatic disorders; in head-achs, asthma's, catarrhs, habitual costiveness, and many other complaints. It is drank in the hot months, and is frequented by vast numbers of people of all ranks; and, at the season of drinking the waters, there are at Scarborough, assemblies and balls, in the same manner as at Bath and Tunbridge.

About a mile from Beverley, in Yorkshire, is a spaw, which is said to be of great service in the cure of scorbutic and other cutaneous disorders.

Cheltenham, a market town of Gloucestershire, is much frequented, on account of a mineral water, which was discovered there not many years ago, and is purgative and diuretic.

At Llandrindrod, in Radnorshire, there is a mineral water of three sorts: rock water, pump water, and well water. The rock water is supposed to be good in all chronic diseases from a
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lax fibre; in scorbutic eruptions; in weak nerves, asthma's, palsies, epilepsies, agues, nervous fevers; all diseases in women, and seminal weaknesses in both sexes. The pump water is said to be an excellent remedy for the scurvy, hypochondriac, melancholy, fevers, leprosy, and the gravel. The well water is chiefly used for bathing, in such disorders as tepid bathing is recommended.

Knareborough, in Yorkshire, is famous for medicinal springs, which were formerly much frequented: these springs are four in number, situated not far distant one from another, and yet of very different qualities. One, distinguished by the name of the sweet spaw, or vitrioline well, is in Knareborough forest, about three miles from the town: it was discovered in 1620, and is acknowledged to be a sovereign remedy in several disorders. Another of these springs is called the stinking spaw, or the sulphur well, from its strong sulphureous foetid smell, and is generally used by bathing, in rheumatic and paralytic cases; and is drank in dropical, splenetic, scorbutic, and arthritic disorders. Another spring is called Mongah's, or Mungo's well, from Mungo, a Scottish saint, once greatly revered in these parts: it is about four miles from the town, and is used as a cold bath. The fourth spring is in the town, and is called the dropping well, because the water drops out of a spongy, porous rock, into a stone basin underneath; the petrifying quality

of this spring, is said to be stronger than that of any other spring in this island.

At Leeds, in this county, there are also some medicinal springs, one of which, called St. Peter's well, is remarkably cold, and has proved of great service in rheumatisms, rickets, and some other complaints; and another called Eyebright well, has been found useful in disorders of the eyes.

At Moffat, a village in Annandale, a district of Scotland, about thirty-six miles south-west of Edinburgh, are Moffat wells, the most famous mineral waters in Scotland. These wells are two in number, and stand not far from each other, upon different levels; the highest runs through whitish stones, resembling crystal; and the lowest, through blackish stones, of the colour of antimony. The waters are diuretic, emetic and cathartic, powerfully removing all obstructions of the bowels, and therefore very good against the cholic and nephritic disorders. They are also of service to remove pains in the joints: they are said to be a sovereign remedy in scorbutic cases, and the king's evil; and are used both by drinking and bathing. They are supposed to owe their virtue to a sulphureous principle.

Besides these springs, which are the most celebrated medicinal waters in Britain, there are others remarkable for their healing qualities, among which are those following:

A mine-

A mineral spring was some years ago discovered at Brighthelmstone in Suffex, the water of which was began to be much drank in the summer of the year 1760. It is found to deposit an ochreous sediment; and a course of it, judiciously varied, is supposed to restore infirm habits.

In Cornwall there are several springs, supposed to have medicinal virtue, that are not known to be tinged with any mineral. At a village called Madern, north of Penzance, a market town of this county, there is a well, which is said to cure pains and stiffness in the limbs, by being used as a bath.

In the parish of Sancred, among the hills to the west of Penzance, there is another well, that has been much celebrated for curing wounds and sores, and removing cutaneous eruptions. Both these waters rise in a grey moor-stone gravel, and are very cold and limpid, but not mineral.

In this county is a third well of the same kind, called Holy well, situated in a small sandy bay on the south-west coast, not far from Columb Magna, a market town. In this bay there are several caves wrought into the cliff by the north sea; in one of which, at the north-east point of the bay, at the foot of a high cliff, is this well. There are some rude steps cut into the rock, leading from the entrance, which is very low, to the height of many feet perpendicular:

dicular: the water is then seen distilling from every part of the roof; and, being collected in a little basin, flows thence in a small stream not bigger than a reed. The water of this well is greatly recommended in fluxes, and other disorders of the bowels; but it does not appear to contain any mineral principle.

In Lancashire there are several excellent springs of chalybeate waters; the most remarkable of which is at Latham, near Ormskirk, called Maudlin's well, which has wrought many remarkable cures. It was walled in and covered, at the expence of Charles, late earl of Derby, who had a family seat here. Though this spring is not near the sea, nor any salt rivers, yet it used to throw up marine shells in great quantities, till mill-stones were laid upon it, which now prevent that inconveniency. This spring would be more frequented, if there were better accommodations round it. It is said to be impregnated with vitriol, sulphur and ochre, mixed with iron, lapis sciscillis, and a marine salt, united with a bitter purging salt.

At Wraysholm tower, on the south side of Cartmel, was discovered, not many years ago, a medicinal spring of a brackish water, which is since frequently drank every summer, by persons troubled with worms, the stone, gout, itch, and several other distempers.

Astrop

Astrop wells, upon the borders of Oxfordshire, were once much recommended in scorbutic and asthmatic cases.

Epsom, a market town of Surry, has been long famous for medicinal purging waters, impregnated with alum, and discovered in 1618. Notwithstanding these waters are not in such repute as formerly, yet they are not impaired in virtue; and there is a salt extracted from them, famous over all Europe, for its gentle, cooling, purgative, and purifying qualities; but very little of it is now made, that sold in the shops under the name of Epsom salts; being extracted from a bitter liquor that drains from common sea-salt, when it is first made.

Dulwich wells, in the same county, about five miles from London, are celebrated for their purgative quality, and were formerly much frequented; and Stretham, about seven miles from London, has a fine medicinal spring, which was discovered in 1660, and has also been greatly frequented by persons of all ranks from London.

King's Newnham, near Rugby, a market town of Warwickshire, is remarkable for three medicinal springs; the water of which is strongly impregnated with alum, of a milky colour, and reckoned a good medicine for the stone. It is observed of this water, that, being drank with salt, it is aperient; but with sugar, restraining.

At the west end of the city of Aberdeen, in Scotland, is a little round hill, from the bottom of which issues a spring, called the Aberdonian Spaw, celebrated for its medicinal virtues; of which an account is given in a treatise, professedly written upon this subject, by Dr. William Barclay.

Near Edinburgh is a well, called St. Catherine's well, and vulgarly, the Oily well, because it sends up with the water an oil, or balsam, which swims upon it: this oil is an excellent vulnerary, is serviceable in the cure of pains proceeding from cold, and is celebrated for its strengthening and invigorating qualities.

At Wexford, in the county of that name in Ireland, there is a good chalybeat spring, much resorted to in the summer season.

These being the chief medicinal springs in Great Britain and Ireland, such springs will, in the next place, be taken notice of as are most remarkable for other different peculiarities.

Of this kind are the petrifying springs with which these islands greatly abound.

At Aston, south of Deddington, a market town of Oxfordshire, there is a petrifying spring, the water of which cures the grass, moss, and other vegetable substances in its way, with a stony kind of slime, which, while it

hardens, consumes the substance it has fastened upon, so that nothing but the petrified case remains. And at Summerton, a village south-east of Deddington, there is another petrifying spring, the water of which forms a stony crust, like a sheath, over vegetable substances of all kinds, but without destroying them, and with so little cohesion, that they may be drawn out with the greatest ease.

Not far from Broughton, near Kettering, market town of Northamptonshire, there is a petrifying well, from whence a scull, perfectly petrified, was, in the last century, brought to Sidney college, in Cambridge, where it is still preserved.

At Barton, about eight miles from Luton, a market town of Bedfordshire, is a petrifying spring: and, at the bottom of Beacon-hill, not far from Harwich, in the county of Essex, is another spring, which petrifies not only the earth that falls into it from the top of the cliff, but wood also; and a large piece of wood thus petrified is preserved in the repository of the Royal Society at London.

In the neighbourhood of Lutterworth, a market town of Leicestershire, is a petrifying spring, the water of which is exceeding cold, and so strongly impregnated with petrifying qualities, that, in a very little time, it converts wood, and several other substances, into stone.

In Betham Park, near Burton in Westmoreland, is a petrifying spring, called the Dripping-Well.

Near Dunnoter Castle, in Kincardinshire in Scotland, there is a dropping cave, where the water petrifies.

Among the springs, which are remarkable for other singularities, are those following :

One of the wonders of the Peak of Derby is a spring, called Tideswell, near a market town, to which it has given its name. This well is about three feet deep, and as many wide, and the water, in different and uncertain periods of time, sinks and rises with a gurgling noise two thirds of the perpendicular depth of the well.

At Brixham, a village about three miles west of Dartmouth in Devonshire, is a spring, called Lay-well, which ebbs and flows from one to eleven times in an hour. The rise and fall of it, at a medium, is about an inch and a quarter; and the ærea of the bason, into which it is received, is about twenty feet. It sometimes bubbles up like a boiling pot: the water, which is as clear as crystal, is very cold in the summer, yet never freezes in winter. The neighbouring inhabitants have a notion, that, in some fevers, it is medicinal.

At a village, called Giggleswick, about half a mile from Settle in Yorkshire, there is a spring, which frequently ebbs and flows three times in an hour, when the water sinks and rises two feet.

At Newton, on the sea side, north west of the mouth of the Ogmore, in Glamorganshire in Wales, is a spring about eighteen feet in circumference, the water of which, at high tide, sinks nearly to the bottom: but when the sea ebbs, it rises almost to the brim. To account for this phænomenon, it is supposed, that, at full sea, the air in the veins of the spring, not being at liberty to circulate, is deprived of its usual vent, which prevents the water from springing out; but that the sea retiring from the shore, and those veins or natural aqueducts being freed from such obstructions, the water is permitted to issue through them.

At Kastelh Karreg, near Caermarthen, in the county of that name, is a fountain, which constantly ebbs and flows every twenty-four hours.

At North Tauton, a village near Barnstaple in Devonshire, there is a pit ten feet deep, out of which a spring of water sometimes issues, and forms a little brook, that continues for many days together.

At the bottom of a hill, about five miles from Leominster in Herefordshire, is a well, called

called Bone-well, in which a great quantity of small bones is always found, and of which there is constantly a fresh supply, in a very short time after it is cleared of them.

At Ancliff, two miles from Wigan in Lancashire, there is a curious phaenomenon, called the Burning well; the water of which is cold, and has no smell; yet so strong a vapour of sulphur issues out with it, that, upon applying a lighted torch to the top of the water is covered with a flame, like that of burning spirits, which lasts several hours, and emits so fierce a heat, that meat may be boiled over it: but this water, being taken out of the well, will not emit vapour in a quantity sufficient to catch fire.

In many parts of Cheshire there are salt springs, particularly at Norwich, Namptwich, and Middlewich, which are called the Salt Wiches, and at Dunham, at the distance of about six miles from each other; and from these vast quantities of salt are produced. The pits are seldom more than four yards deep, and never more than seven. In two places in Namptwich the spring breaks out in the meadows, so as to fret away the grass; and a salt liquor ouzes through the earth, which is swampy to a considerable distance. The salt springs at Namptwich are about thirty miles from the sea, and generally lie along the river Weaver: yet there is an appearance of the same vein at Middlewich, nearer a little stream, called the Dan, than the Weaver. All these springs lie

near brooks, and in meadow grounds. The water is so very cold at the bottom of the pits, that the briners cannot stay in them above half an hour at a time, nor so long without frequently drinking strong waters. Some of these springs afford much more water than others, but it is observed, that there is more salt in any given quantity of water drawn from the springs that yield little, than in the same quantity drawn from those that yield much. This water is much stronger than that of the sea; for a quart of it will produce between seven and eight ounces of salt, while that of the sea will not produce more than an ounce and a half.

At Barton, near Ormskirk; a market town of Lancashire, there is a remarkable spring of salt-water, a quart of which will produce eight ounces of salt, though a quart of sea-water will produce but an ounce and a half.

At Leamington, east of Warwick, in the county of that name, there is a salt spring which rises near the river Leam; the water of which is used by the poorer sort of people to season their bread.

Among the remarkable lakes of this country may be reckoned Luxford Lake, near Pool in Dorsetshire, which is said to ebb and flow four times every twenty-four hours.

Near Stackpool Bosher, upon the sea coast not far from Pembroke, in the county of that name

name, is a pool or pit of water, called Boshar-ton Meer, so deep, that it could never be founded: yet, before a storm, it is said to bubble, foam, and make a noise so loud, as to be heard at the distance of ten miles. It is supposed to have a subterraneous communication with the sea.

In Argyleshire, in North Britain, is a lake, called Lochow, which is twenty-four miles in length, and one mile in breadth. Lochness, in the county of Inverness, is much about the same length: but it is said to be in many places of an unfathomable depth. It never freezes, but smoaks, and will dissolve ice thrown into it during the greatest frosts, which is ascribed to the sulphureous beds it passes through; and the same is observed of Loch Tay, and Loch Ern, two other lakes in Scotland.

Near Lochness, and on the top of a hill, said to be two miles in perpendicular height, is a lake, about thirty fathoms long, and six broad, which never freezes, and could never be fathomed: there is no appearance of any stream to or from this lake; and yet it is full at all seasons of the year.

In Ireland there are some very considerable lakes, among which are Loch Corrib, in the county of Gallway, which is twenty miles long, and, in some places, five miles broad; and Loch Mask, in the county of Mayo, eleven miles in length, and five in breadth. Loch
Corrib

Corrib is navigable, and is said to contain three hundred islands, covered with pine trees. Loch Mask has two islands, on which are the ruins of some antient castles.



MISCELLANEOUS CURIOSITIES.

AT the bottom of several mountains in Derbyshire there are cavities, called by the inhabitants Swallows, because they swallow up several streams, which never re-appear: but some think, that the subterranean rivers in the Devil's Arse in the Peak of Derby, already mentioned, and other rapid springs that issue out of some mountains, near Castleton, a town six miles north east of Buxton Wells, are formed from the conflux of water in those cavities.

The Mole, a river of Surry, after running for several miles from its source, disappears at the bottom of a hill, called Box-hill, near Darking, a market town, and passes under ground in a place called the Swallows. It is thought to have derived the name Mole from its working its way under ground: for it was formerly believed, that from the bottom of Box-hill, where it is swallowed up, it works a passage for more than two miles to Leatherhead, where it is supposed to spring up anew, and whence it continues its course northward, till it falls into the Thames, over-against Hampton-court, in
the

the county of Middlesex. Later writers are however of opinion that the stream of the Mole is altogether lost at the Swallows, and is not the same that rises at Leatherhead: but rather, that the waters there issue from a new spring; and that the river formed by them is another river, though, from a belief of its being the same river, it obtained the same name.

In Berkshire is a small river, called the Lambourne, which, contrary to all other streams, is always highest in summer, shrinks gradually as winter approaches, and, at last, is nearly, if not quite, dry. To account for this extraordinary phenomenon, it has been supposed, that there is in the hill, from which this stream issues, a large cavity, with a duct, in form of a syphon or crane, such as is commonly used to decant wine and other liquors. Supposing this to be the case, the rain, which begins to fall plentifully in autumn, and continues during the winter, will, at length, raise the water in the basin to the level of the highest part of the syphon, and the duct being then filled, and the leg that communicates with the stream being longer than that which communicates with the basin, the water in the basin will run out through it, and continue to do so, till the surface of the water sinks below the foot of the duct that communicates with it: the consequence is, the basin being filled, during the winter, the duct will begin to run in the spring, and continue running all summer; but summer being a dry season, and not supplying the basin
with

with rain as fast as it is exhausted, the water will at length sink below the end of the duct, and consequently the stream will again cease to run, till the water again rises in the basin to the level of the highest part of the syphon, which will happen the beginning of the following summer; and thus the stream will always run in the dry season, and become dry in the wet, except the little that it borrows from the trickling of the adjacent springs. Supposing this hypothesis to be true, the periods of flowing and failing of this spring will be reciprocally longer or shorter as the seasons are wetter or drier: for if the winter proves wet, the stream will begin to flow earlier in the summer; and if the summer also should be wet, it will continue to flow longer, and so vice versa.

In York Woud, after very rainy seasons, water frequently gushes out of the earth, and rises to a very considerable height: these jets the inhabitants of the county call Vipsies, or Gipsies, and believe them to be the fore-runner of a famine, or some other public calamity. To account for these phænomena, it is supposed, that the rain water, being received and collected in large basins or caverns of the hills in this mountainous tract, finds a vent below, towards the bottom of the hills; but that this vent not being large enough for the water to issue as fast as it gathers above, it is forced up into jets, or spouts, upon the principle of artificial fountains; and after springs and summers so wet as to produce these spouts, a scarcity of
corn

corn has frequently happened throughout the kingdom; so that the notion of these spouts being prognostics of famine is better founded than many others of the same kind.

In Pentland Frith, which divides the Orkney islands from the British continent, and near one of those islands, known by the name of Swinna, there are two great whirlpools, called the Wells of Swinna, which are sure to swallow up any vessel that comes within their vortex: these whirlpools, where the water is perpetually going round, are most dangerous in a calm; for if there be any wind, and the vessel under sail, they are passed without danger. If the mariners, who carry passengers between the main land and the islands of Orkney, are ever driven near these eddies by the tides, they throw a barrel, bundle of straw, or some other bulky thing into the nearest whirlpool; and while that is swallowing, the draught to the vortex ceases; and the sea around is calm enough to suffer the vessel in the mean time to get beyond the reach of its draught: whatever is swallowed up in this manner by either of the whirlpools is found floating soon afterwards, at the distance of a mile or two from them.

S E C T.

S E C T. III.

An Historical Account of the most remarkable Earthquakes, Inundations, Fires, Epidemical Diseases, and other public Calamities, proceeding from natural Causes, which, at different times, have visited the Inhabitants of Great Britain and Ireland; together with a History of other very extraordinary miscellaneous Phenomena observed in these Islands.

E A R T H Q U A K E S.

GREAT BRITAIN and Ireland are countries not very subject to earthquakes, a few however of these terrible phenomena have happened, at different periods, in these islands.

There is a chasm at Hermitage, a village about seven miles south of Sherborn in Dorsetshire, which is one of the most extraordinary effects of an earthquake to be found in this island: it was occasioned by the removal of a large plat of ground, with trees and hedges upon it, to the distance of forty rods, by an earthquake which happened on the 13th day of January, in the year 1585.

In the year 1575, Marcleigh hill, about six miles east of Hereford, after shaking and roaring, in a terrible manner, for three days together, was, about six o'clock on Sunday evening, put in motion, and continued moving for eight

eight hours, in which time it advanced upwards of 200 feet from its former situation, and mounted twelve fathoms higher than it was before. In the place whence it set out, it left a gap 400 feet long, and 320 broad; and, in its progress, overthrew a chapel belonging to a village, called Kinnaston, together with all the trees, houses, and every other thing that stood in its way; carrying with it the trees that grew upon it, with sheep folds, and some flocks of sheep that were feeding on it. It is observed, that the earthquake, which removed this hill, was of that kind which the naturalists call *brasmatia*, being a motion up and down, or perpendicular to the horizon.

The top of the high cliff, south of the town of Scarborough in Yorkshire, at the bottom of which is the Scarborough Spaw, already mentioned, was fifty-four yards above high water mark, till the 29th of December, 1737, when a part of the cliff, containing above an acre pasture land, sunk by degrees, for several hours, with cattle feeding on it; and at length settled about seventeen yards below its former perpendicular height. By the pressure of such an immense weight, computed at no less than 561,360 tons, the sandy ground beyond the cliff towards the sea, where the wells were, rose, for about an hundred yards in length, twenty feet above its former level. The Spaw and the building around it, being on the ground that was thus elevated, the water entirely failed; but, upon a diligent search, the Spaw was again recovered,

and the water, upon trial, seemed rather to more efficacious than before.

There is a ridge of chalky hills, reaching all the way from Folkestone, to Dover in Kent, some of which, in the neighbourhood of Folkestone, we are told, in No. 349, of the Philosophical Transactions, had been observed to sink considerably in the last century : but whether by an earthquake, or some other cause, does not appear.

The most extraordinary phenomenon that ever happened in the sea, on the coasts of the islands, by means of earthquakes, was on the first of November 1755, about two in the afternoon, the day on which Lisbon was destroyed by an earthquake. Mr. Borlace, who has written a Natural History of Cornwall, observes that there was just then a dead calm on the coast of that county, which left the vanes pointing to the north-east, that the mercury in the Barometer was higher than it had been known for three years before, and the mercury in Fahrenheit's thermometer stood at fifty-four. The sea at St. Michael's Mount, in Cornwall, after it had ebbed about half an hour, suddenly rose six feet, and again retired in about ten minutes, this flux and reflux continued every ten minutes for two hours and an half. It came in with great rapidity from the south-east, and ebbed away to the westward, whirling the boats that lay at the head of the pier, some one way, and some another. The first and second flux and reflux

reflux were not so violent as the third and fourth, for in these, and those that immediately followed, the sea was as rapid as a mill stream, descending to an undershot wheel. After about two hours the undulations became gradually fainter, and ceased about the time of low water.

On February the 8th, and March the 8th, in the year 1750, the inhabitants of London and Westminster were greatly alarmed by a violent shock of an earthquake, that happened each day, which however did no considerable damage.



STORMS *and* INUNDATIONS.

IN the northern parts of Huntingdonshire, there are large bodies of water called Meers, some of which, particularly Wittlesey Meer, are frequently thrown into the most violent agitations, without the least breath of wind, to the great terror and danger of the fishermen, and others that pass the lake. These agitations are generally supposed to arise from eruptions of subterraneous winds.

In the year 1703, happened a storm, which was dreadfully violent all over the island, but remarkably so in Somersetshire, where Dr. Kidder, bishop of Bath and Wells, together with his lady, were killed in bed, by the fall

of a stack of chimnies over the room in which they lay, at their palace in the city of Wells and in the same storm, a ship was driven ashore near Bridgewater, and left several hundred yards beyond the common high water mark.

At Withicomb, a village near Ashburton, in Devonshire, there happened, in the year 1638 a violent storm of thunder and lightning, during which, a ball of fire broke into the church where the people were assembled for divine service, killed three persons, wounded sixty-two and greatly damaged the church. And at Cruse Morchard, a village west of Tiverton, in the same county, a terrible storm of thunder happened in the year 1689, which not only rent the church steeple, but melted the bells, and even the glass as well as the lead in the windows.

The greater Ouse, a river of the county of Norfolk, is remarkable for its sudden and impetuous inundations, particularly at the full moon, in the autumnal and vernal equinoxes, when a vast body of water from the sea runs up against the stream, through the channel of this river, with prodigious violence, overflowing the banks, and sweeping off every thing in its way.

At Kirby, north of Dalton in Lancashire, there happened formerly such a violent eruption of water, as carried down whole houses before it, and swept away fragments of rocks
of

of such magnitude, that many team of oxen could not move them.

In the year 1408, the town of Ware, in Hertfordshire, was almost totally destroyed by an inundation.

Near the confluence of the river Tees and Bauder, in the county of Durham, about Midsummer, 1689, there happened an eruption of water, which, in forcing its passage from below, carried away a quantity of earth, that left a chasm of one hundred and sixty yards long, eighty yards broad, and six or seven deep, choaked up both the rivers, and killed great quantities of fish. The meadows over which the flood passed were also spoiled for a time, by the mud which it left behind.

The sea sand, in several parts on the coast of Pembrokehire, in Wales, having, at different times, been washed away by a long continuation of violent stormy weather, discovered very large trees, some of which, having been felled, lay at full length, while the trunks of others stood upright in their native places: these trees lay so thick, and were in such quantities, that the shore, for a considerable space, appeared like a forest cut down: the marks of the axe were as plain in the trees, as if they had been but just felled; but the wood was become hard and black as ebony.

On the twenty-sixth of November, 1703, about eleven o'clock at night, happened a dreadful tempest, attended with such flashes of lightning and peals of thunder, as filled every mind throughout the kingdom with the utmost terror and consternation. The houses in London shook from their foundations, and several of them falling, overwhelmed the inhabitants in their ruins. The Thames overflowed several streets, and rose to a considerable height in Westminster-hall. London-bridge was almost choaked up by the wreck of vessels that were beat to pieces in the river. The loss sustained by the capital alone, was computed at near two millions; and the city of Bristol suffered to the amount of two hundred thousand pounds: but the greatest loss fell upon the navy, of which there perished no less than thirteen ships, and upwards of fifteen hundred seamen.

On the twenty-sixth of November, 1740, there was such an extraordinary storm of thunder and lightning at Irwin, a town of Airshire, in Scotland, that the people who were not struck down with the lightning, fell to the ground, apprehending that the dissolution of the world was at hand.

Much mischief was done in the city of Edinburgh, and at Leith, by a storm which happened the 14th of January, in the year 1739: the leads of the stately buildings in the parliament close of the city of Edinburgh were carried off, though the roofs of some of them were
more

more than forty feet long. A church in that city, called the Canongate church, suffered prodigiously; and a fine portico belonging to it was almost demolished. A fire happened at the same time, to encrease the consternation, by which several houses were reduced to ashes. The buildings in the castle of Edinburgh were prodigiously damaged by the storm, their fine leaden roofs carried off, and the magazine was almost demolished. Several houses in this city, and at Leith, were unroofed; and the ships in the harbour of Leith broke loose with such violence, that they carried away with them the great iron rings to which they were fastened.



FIRES, EPIDEMIC DISEASES, *and other* PUBLIC CALAMITIES.

THE most dreadful conflagration that perhaps ever happened in any nation, was a fire that broke out, about one o'clock in the morning, upon the second of September, in the year 1666, at Pudding-lane, in London, and destroyed almost the whole of that city, whence it is called, the fire of London. The part of the city in which it began being closely built with wooden and pitched houses, it burst with great fury, and, by means of a violent easterly wind, was spread so far before day, that it could not be mastered by engines: and such was the distraction of the inhabitants, that care was

was not taken in time to prevent the further diffusion of it, by blowing up houses with gunpowder, so that it kept burning all that day, and the night following, with the utmost fury; and continued more or less from Monday morning till Thursday night. It burnt from Pudding-lane, not far from the foot of London-bridge, all the way westward to the Temple church; and in other directions, to Holborn-bridge, Pye-corner, Aldersgate, Cripplegate, near the end of Coleman-street, Bishopsgate-street, Leadenhall - street, Fenchurch - street, Clothworkers-hall in Mincing-lane, the middle of Mark-lane, and the Tower dock.

It destroyed the buildings on four hundred and thirty-six acres of ground: it burnt down four hundred streets, lanes, and courts, thirteen thousand two hundred houses, the cathedral church of St. Paul, eighty-six parish churches, and six chapels; the magnificent buildings of Guildhall, the Royal Exchange, Custom-house, and Blackwell-hall, divers hospitals and libraries, fifty-two of the companies halls, and a vast number of other stately edifices, together with three of the city gates, four stone bridges, and the prisons of Newgate and the Fleet, with the Poultry and Wood-street compters; the loss of which, together with the merchandize and household furniture, by the best calculations, amounted to ten millions seven hundred and thirty thousand five hundred pounds; and yet, notwithstanding this terrible devastation, only six persons lost their lives by the fire.

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The distress to which this dreadful calamity reduced the inhabitants, is scarcely to be conceived, the far greatest part of them being deprived of their habitations, and compelled to retire to the fields, destitute of almost every thing, where they were exposed to the inclemencies of the weather, till a sufficient number of huts could be fitted for their accommodation.

Whether the fire of London was the effect of accident or design, has been much controverted: at the time it happened, it seems to have been taken for granted that it was the effect of design; and the only controversy was, by which of the parties that the nation was then divided into it had been done. It was mutually charged by all parties, on each other, and the majority of the public being disposed to favour every possible disgrace brought upon the Popish party, the fire was generally charged to their account; and that charge at the revolution, which happened afterwards, was supported by all who wished well to the new establishment: but as the spirit of party is now extinguished, the fire of London is generally imputed to accidental and natural causes. But whatever was the cause of this calamity, it is certain that nothing could have happened of greater benefit to posterity, because, before the fire, the streets were narrow, crooked, and incommodious; the houses, which consisted of wood, were dark, and ill-contrived, with their several stories jutting out,
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and hanging over each other, by which the circulation of the air was obstructed, and noisome vapours harboured, which produced frequent pestilential disorders: but the streets being enlarged, and the houses constructed with flat fronts, upon rebuilding the city, there is such a free circulation of the air throughout, that offensive vapours are expelled, and few places in the kingdom are esteemed more healthy than London.

Among the many other terrible fires which have happened in London, one, attended with the most horrid circumstances, broke out in Southwark, on the night of the 10th of June, 1212, about four years after London-bridge was finished. The flames, which soon communicated to the houses on the south end of the bridge, were, by means of a strong southerly wind, spread to the north end before the middle part took fire, and that so suddenly, as to stop the return of a great multitude of people, who had run from the city in order to assist at the extinction of the fire in the Borough: by this accident, 3000 persons, inclosed between the two fires, are said to have been burnt on the bridge, or drowned, by crowding in such numbers into the vessels in the river, that ventured to their assistance, as to sink them.

The town of Tiverton, in Devonshire, is remarkable for its sufferings by fire. On the third of April, 1598, the market day, a fire broke out, which burnt so furiously, that the whole

whole town, consisting of more than 600 houses, was consumed, and nothing but the church and two alms-houses escaped. It was scarce rebuilt, when it was again totally destroyed by fire, on the 5th of April, 1612; and, on the 5th of June, 1731, another terrible fire happened here, which destroyed 200 of the best houses in the place, and most of the manufactures.

On the 14th of August, 1743, a fire broke out at Crediton, in the same county, which in less than ten hours consumed 460 dwelling-houses, besides the market-houses, woollen-chamber, and other public buildings. Eighteen persons perished in the flames; above 2000 more were reduced to the most deplorable distress; and the damages in houses and goods not insured, were computed at 60,000 l.

On May the first, 1690, a fire broke out at Alresford, in Hampshire, in several places, almost at the same time, and consumed the whole town, sparing neither church or market-house; and, since that time, it has been twice totally reduced to ashes.

On the first of March, 1689, the whole town of Bungay, in Suffolk, except one little street, was burnt down in the space of a few hours; and the damage sustained by this fire, was computed at near 30,000 l.

On the 8th of September, 1694, a fire broke out at Warwick, by which the greatest part of the

the town was soon reduced to ashes; and the damages sustained were computed at about 100,000*l*.

A very tragical event happened at Barnwell, a village near Cambridge, on the 8th of September, 1727. Some strollers having brought a puppet-show to this place, it was exhibited in a large thatched barn. Just as the show was about to begin, an idle fellow attempted to thrust himself in, without paying, which the people of the show prevented, and a quarrel ensued. After some altercation, the fellow went away, and the door being made fast, all was quiet: but this execrable wretch, to revenge the supposed incivility he had received from the show-man, went to a heap of hay and straw which stood close to the barn, and secretly set it on fire. The spectators of the show, who were in the midst of their entertainment, were soon alarmed by the flames, which had communicated themselves to the barn: in the sudden terror which instantly seized the whole assembly, every one rushed to the door; but it happened unfortunately that the door opened inwards; and the crowd that was behind still urging on those that were before, they pressed so violently against it, that it could not be opened; and being too well secured to give way, the whole company, consisting of more than 120 persons, were kept confined in the building, till the roof fell in: this accident covered them with fire and smoke; some were suffocated in the smoldering thatch, and others were

were consumed alive in the flames: six only escaped with life; the rest, among whom were several young ladies of fortune, and many little boys and girls, were reduced to one undistinguishable heap of mangled bones and flesh; the bodies being half consumed, and totally disfigured. The surviving friends of the dead not knowing which were the relicks they sought, a large hole was dug in the church-yard, and all were promiscuously interred together. As it is not easy to conceive any circumstances of greater distress and horror, than those which attended this catastrophe, neither is it easy to conceive more aggravated wickedness than concurred in the perpetration of it.

The plague before the fire of London, made frequent and dreadful havock in this city and suburbs: in 1625, it carried off 35,470 persons; and so many died of other distempers in the same space of time, that the bill of mortality for that year amounted to 54,265.

The plague broke out again in London about the beginning of May, 1665, which, before the end of September following, raised the weekly burials in the city and suburbs, to 7165; and destroyed in the whole 68,596 persons; and the bill of mortality for the year amounted to 97,306.

In the year 1348, near 58,000 persons were carried off in the city of Norwich by a pestilence.

In the reign of king Henry the third, a pestilence raged at Yarmouth, in Norfolk, which swept off seven thousand of the inhabitants in one year; and, in 1631, the town of Wingham, in the same county, was visited by a severe pestilence.

In 1608, a fire broke out at St. Edmund's bury, in Suffolk, by which several hundred houses were burnt down; and in 1636, a pestilence depopulated the town so, that grass grew in the streets.

In the year 1485, first appeared an epidemic disease, called the sweating sickness, and *Sudor Anglicanus*, or the *English sweat*, because it was peculiar to England, and was attended with an extraordinary kind of sweat, which never ended but either with the death of the patient or his recovery. It seized different patients in different manners: for, in some it began with a pain in the neck, scapula, legs, or arms, whilst others perceived only a kind of warm vapour, or flatulence, running through those parts. These symptoms were succeeded by a profuse sweat, which the patient could not account for; the internal parts became first warm, and were soon afterwards seized with an incredible heat, which thence diffused itself to the extremities of the body. An intolerable thirst, restlessness, and indisposition of the heart, liver and stomach, were the next symptoms; which were succeeded by an excessive head-ach, and a delirium; after these a kind of extenuation of the

the body, and an irresistible inclination to sleep.

Few people escaped this disorder at first; too much care and too little, were found equally destructive; and it is said, that if the patient survived twenty-four hours, he was safe. He was to continue without stirring, either in his bed, or in his cloaths, according to the condition nature was surpris'd in, without burdening him either with remedies, or with foods; without cloathing either too much or too little; and, if possible, without either eating or drinking. The sweat was to be kept up, without either promoting it by any extraordinary heat, or checking it by the least cold. The disease was first felt on the 21st of September, and in one and the same day is said to have spread itself over all England, where, after a great mortality, it stopp'd all at once, towards the end of October. Its ravages were so great, that, in some places, it took off a third part of the people in a very little time. It afterwards, in the space of sixty-six years, made its return four times, viz. in 1506, 1517, 1528, and 1551; and, in 1534, pass'd over into Ireland, where it killed great numbers of people. It was, however, less fatal, every return; and it is said, that at the fourth attack in 1528, of 40,000 persons who were seiz'd with it in London, only 2000 died.

OTHER VERY EXTRAORDINARY MISCELLANEOUS PHÆNOMENA.

THERE are scarce any meteorological phenomena which are not common to all parts of an island like Britain, yet there is an appearance in Cornwall, called by the country people a weather dog, and found to be a certain prognostic of hard rain, which to Mr. Borlace, who has lately written a Natural History of this county, appeared new and singular.

By his description, it must look like a piece cut off from the end of a large rainbow, thrice as wide as a common rainbow, but no higher than wide; that which he saw appeared in the north-east, about six in the evening, of the fifteenth of August 1752, the wind being at west north-west; the sky cloudy, and the mercury moving upwards in the barometer: soon after, the mercury began to fall; the next day, about eleven, it began to rain; at one, the rain came down like a flood, and so continued without intermission till ten o'clock the morning following.

In the year 1624, the country about Harlech, a market town of Merionethshire, in Wales, was annoyed above eight months, by a strange fiery exhalation: it was seen only in the night, and consisted of a livid vapour, which arose from the sea, or seemed to come from
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Caernarvonshire, crosses a bay of the sea, eight or nine miles broad, on the west side of Harlech. It spread from this bay over the land, and set fire to all barns, stacks of hay, and corn, in its way: it also infected the air, and blasted the grass and herbage so that a great mortality of cattle, sheep, and horses ensued. It proceeded constantly to and from the same place, in stormy as well as in calm nights; but more frequently in the winter than in the following summer: it never seized any thing but in the night, and the flames, which were weak, and of a blue colour, did no injury to the inhabitants, who frequently rushed into the middle of them, to save their hay or corn. This vapour was at length extinguished, or dispersed, by the blowing of horns, ringing of bells, firing of guns, or putting the air into motion by various other ways, whenever it was seen to approach the shore.

S E C T. IV.

Extraordinary Instances of Longevity, Fertility, &c. among the Inhabitants of the British Isles, together with an Account of their most celebrated Inventions, Discoveries, &c.

ONE of the most extraordinary instances of longevity, known in these islands, appears to be that of one Henry Jenkins, a native of the North Riding of Yorkshire, who died in 1670, at the age of 169 years: as there were no registers old enough to prove the time of his birth, it was gathered from the following circumstances. He remembered the battle of Flodden-field, fought between the English and Scots, in the year 1513, when he was twelve years old. Several men in the neighbourhood, about one hundred years of age, agreed, that, from their earliest remembrance, he had been an old man; and at York assizes, he was admitted to swear to 140 years memory. He frequently swam rivers after he was an hundred years old; and he retained his sight and hearing to his death. He had been a fisherman an hundred years; but towards the latter part of his life, he lived by begging. A monument was erected to his memory by subscription, at Bolton, on the river Swale, in Yorkshire, with an inscription, intimating, that he was 169 years old, and that he was buried there on the 6th of December 1670.

At Dent, a village near Askrig, a market town of the north Riding of the county of York, there lived two persons, the father and son, who, in 1664, were summoned as witnesses upon a trial at York assizes, when the father was above 139 years of age, and the son upwards of one hundred.

At Skipton, in the west riding of Yorkshire, lived many years, one Robert Montgomery, a native of Scotland, who, at the age of 126 years, went about begging; and at Thirleby, in the north Riding of the same county, lived one Mary Allison, who, at the age of 106 years, spun a web of linen cloth, and lived to the age of 108.

A woman of Githian, near St. Ives Bay, in Cornwall, died in the year 1676, aged one hundred and sixty-four years; and, till a short time before her death, enjoyed good health and sound memory.

In the year 1683, one Mr. Cole, minister of Landawidnek, near the Lizard point, in Cornwall, died upwards of one hundred and twenty years old.

The famous Thomas Parr, commonly called old Parr, lived to the age of 152 years: he was a native of Shropshire, and was sent for to court, by Charles the first, a few years before he died.

At Horborn, near Walsall, in Staffordshire, in the year 1625, died one John Sands, at the age of 140 years; and his wife lived to be 120.

In the year 1708, died one Thomas Bright, a native of Gloucestershire, at the age of 130 years; having retained his eyesight, and being able to walk about, till a few days before his death.

In 1743, two old men, the father and the son, were subpoenaed to an assize held at Newcastle upon Tyne, as witnesses from a neighbouring village; the father was 135 years of age, and his son 95; both of them hearty, and retaining their sight and hearing; and in 1744, one Adam Turnbull died in the town of Newcastle, aged a hundred and twelve years, who had four wives, and was married to the last when he was near 100 years old.

Mr. Serjeant Hoskins, a gentleman of considerable fortune in Herefordshire, having invited King James the First, while he was on a progress that way, to his house, elegantly entertained his Majesty; and as an instance of the longevity of the inhabitants of Herefordshire, procured ten old men and women, whose ages put together amounted to more than one thousand years, to dance the morrice before the king.

At Barfreston, about five miles south-west of Sandwich, in Kent, there was a funeral, in the year 1700, very remarkable for the train of old people who attended it; the person buried was the minister of the place, aged 96; the funeral sermon was preached by another of the age of 82; the service was read by one of 87; the parish clerk, sexton and his wife, were each above 80; and several persons attended from Coldred, the neighbouring parish, that were above 100 years old.

At Burford, in Warwickshire, one Samuel Fairfax, who was born in 1647, lived to the age of twelve years, under the same roof with his father and mother, grand-father and grandmother, great grand-father and great grandmother, all in perfect health; and dwelling together with the greatest harmony, duty, and affection.

Lady Temple, wife of Sir Thomas Temple, and grandmother to the late Lord Cobham, though she had no more than four sons and five daughters of her own body, yet lived to see them encreased to no less than seven hundred persons.

Upon a tombstone in the church of Lenham, in Kent, there is an inscription signifying, that Mary Honeywood, the wife of Robert Honeywood, Esq; of Charing, near Lenham, had, at the time of her death, 367 descendents, of which, sixteen were children of her own body,

114 grand children, two hundred and twenty-eight great grand children; and nine in the fourth generation.

Upon a tombstone in Dunstable church, in Bedfordshire, it is recorded, that a woman of that place had nineteen children at five births, having been thrice delivered of three, and twice of five.

At Aberconway in Caernarvonshire, in Wales, in a tomb stone, with the following extraordinary inscription. ‘ Here lieth the body of ‘ Nicholas Hookes of Conway, gent. who was ‘ the one and fortieth child of his father William Hookes, Esq; by Alice his wife, and ‘ the father of seven and twenty children; he ‘ died the 20th day of March 1637.’

In the xxviiiith vol. of the Philosophical Transactions, we have an account given by Dr. Slare of his grandfather, who was a native of Bedfordshire, and who, at the age of eighty five years, had a complete set of new teeth; and his hair, which was as white as snow, became gradually darker: after this, he lived above fourteen years, in great health and vigour, and, in the hundredth year of his age, died of a plethory for want of bleeding.

Some of the inhabitants of the islands of Scotland live to an astonishing age. Mr. Martin, who wrote a Natural History of these islands, relates, that, in his time, there was a
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gentleman living at Stronsa, one of the Orkney islands, who had a son then in the hundred and tenth year of his age; and that, not long before, died one William Muir, a native of Westra, another of the Orkney islands, at the age of 140 years.

He farther relates, that when he was at Jura, one of the western isles, there was a man there living on that island, who kept 180 Christmasses at his own house; a woman, perfect in all her senses, then in the hundred and fortieth year of her age; and a man living at Southvist, another of these isles, 130 years old.

In philosophical and mathematical discoveries and improvements, the natives of the British isles have made as great advances as those of any one country in the world. So far back as the thirteenth century, in the time of Henry the Third, the famous Frier Bacon, who, according to some, was born at Bisley, a village near Stroud in Gloucestershire, or at Ilchester in Somersetshire, according to others, made such discoveries in experimental philosophy at the university of Oxford, that in that rude age, he acquired the character of a magician or conjurer, and as such, was by order of Pope Nicholas the fourth committed to prison, where he continued many years. It is certain, that if this excellent frier did not invent gun-powder, he knew its composition and properties, which he mentions in express terms.

In 1561 was born at York house in London, or as others will have it, at Goramby near St. Albans, in Hertfordshire, Francis Bacon, afterwards Lord Verulam, that amazing genius who embraced the whole compass of science, and planned or laid the foundation of most of the many improvements, that have been since made in it.

The illustrious Sir Isaac Newton, who was born in 1643, and had the first rudiments of learning at the free school of Grantham in Lincolnshire, succeeded Lord Bacon, and seems to have executed even more than that prodigious genius planned. He has indeed laid open more and abstruser mysteries of nature than man could ever have hoped for; and as his discoveries are too many to be enumerated in the narrow limits of an article of this kind, it is proper to observe, that what all preceding philosophers have handed down to us concerning the mechanical philosophy, does not amount to the tenth part of the discoveries which this sublime philosopher, through his vast knowledge in geometry, has discovered by his own sagacity. He gave such a form to natural philosophy, as is likely to last while there is any philosophy among mankind. He banished from that science all vague hypotheses and conjectures, and subjected it to experiment and geometry only. Perhaps it was with this view, that he began inventing the method of fluxions and infinite series, the use of which is very extensive in geometry, but of greater advantage still in determining the

complicated effects observed in nature, where every thing seems to be performed by species of infinite progressions. The experiments made upon bodies, falling by their own gravity, led this philosopher to discover the force which retains the planets in their orbits. He has at once shewn the method of distinguishing the causes of their motions, and of calculating them with an exactness which could hardly have been expected from the joint labour of ages. He formed a system of optics entirely new, and shewed mankind the nature of the rays of light by decomposing them.

Metaphysics may be said to have been invented by Mr. John Locke, as experimental philosophy was by Sir Isaac Newton. This celebrated philosopher, who was born at Wrington in Somersetshire, rightly judged, that the abstractions and ridiculous questions which had till then been debated, and falsely supposed the substance of philosophy, ought to be rejected: accordingly, on examination, he found that these abstractions and the abuse of words were the primary sources of all our errors. In order to discover the nature of the soul, its ideas and affections, he declined studying books, as they would only have been productive of errors; he entered deep into himself; and after contemplating and surveying what he experienced, wrote his *Essay on Human Understanding*, which he presented to mankind, as a mirror wherein they might view themselves. In a word, he re-

duced this science to what in effect it really
the experimental philosophy of the soul.

It is generally allowed, that the circulation
of the blood was first discovered in England
Dr. William Harvey, in the year 1628, though
there are several authors who dispute it with
him. This discovery, which is of the greatest
importance to physic of any ever made, gave
occasion for the introduction of mechanics into
medicine.

Logarithms, justly esteemed one of the greatest
and most useful discoveries that the last century
has produced, were first invented by John Napier,
per, baron of Marchiston in Scotland, and by him
first published at Edinburgh, in the year
1614; and Morison, a native of that part of
Britain, may be said to have given birth to
systematic botany.

These being the most capital discoveries and
inventions of the natives of this island, we now
proceed to the next general head.

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St Paul's Cathedral.

S E C T. V.

Particular Descriptions of the most remarkable Public Buildings, and other singular Productions of Art, in Great Britain and Ireland.

CHURCHES and COLLEGES.

ST. Paul's cathedral in London is the most magnificent Protestant church in the world; and one of the finest structures that any age has produced. It is said to have been originally founded in the year 610, by Ethelbert, a Saxon prince, on or near a place, where, in the time of the Romans, stood a temple dedicated to Diana. It had several times suffered by fire and lightning; and, in the conflagration of 1666, was totally destroyed. It was rebuilt, after a model of St. Peter's church at Rome, by Sir Christopher Wren, who laid the first stone of the present structure, on the 21st day of June, 1675; and the last stone was laid by his son. Mr. Christopher Wren, in the year 1710. It is built of fine Portland stone, in form of a cross, with two ranges of pilasters on the outside, consisting of 120 each, one above another; the lower range of the Corinthian order, and the upper of the Composite. The spaces between the arches of the windows and the architrave of both the lower and upper orders, are filled with great variety of curious enrichments. The west front of this church is beautified with a most magnificent portico, supported by twelve massy columns of the Corinthian order;

over these are eight composite columns, supporting a beautiful pediment, in which is the history of St. Paul's conversion, boldly cut in bas-relief. The ascent to this portico is by flight of black marble steps, that extend the whole length of the portico; and over each corner of this front is a most beautiful turret. On the south side of the church is a portico with a dome, supported by six lofty columns; over the dome is a pediment, the face of which is beautifully carved with a Phoenix in flames. On the north side is a portico corresponding with that on the south, and its pediment carved with the royal arms, and other ornaments. The ascent to the south portico is by twenty-five steps of black marble; and that to the north by twelve. In the center of the whole building rises a stupendous dome or cupola. Twenty feet above the roof of the church is a circular range of thirty-two columns, with niches placed exactly against others within: these are terminated by their entablature, which supports a handsome gallery, adorned with a stone balustrade. Above these columns is a range of pilasters with windows between them; and from the entablature of these, the diameter of the dome gradually decreases. On the summit of the dome is an elegant gilt balcony; and from its center rises a beautiful lanthorn, adorned with Corinthian columns; and the whole is terminated by a copper ball, from which rises a cross, both finely gilt.

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On the inside, the cupola is supported on eight vast pillars, curiously adorned; the roof of the choir is supported by six pillars, and the roof of the church by two ranges, consisting of twenty more; the roofs of the church and choir are adorned with arches, and spacious peripheries of enrichments, admirably carved in stone. Round the inside of the cupola runs a handsome iron whispering gallery, or balcony, where words spoken very softly, or even the ticking of a watch, may be heard at the distance of more than a hundred feet; and the top of the cupola is richly decorated, and finely painted by the late Sir James Thornhill.

The length of this cathedral, from east to west, including the portico, is 500 feet; its breadth, including the north and south porticos, 311 feet; its height, from the ground to the top of the cross, is 344; the outward diameter of the cupola is 145 feet, and the inward 100 feet: the outward diameter of the lanthorn is eighteen feet; the height of the turrets at the west end is 208 feet; and that of the body of the church 120 feet. This church takes up an area of six acres, and is railed all round with iron balusters, each about five feet and an half high, fixed in a dwarf wall of hewn stone. In this fine balustrade are seven beautiful iron gates, which, together with the balusters, make the iron work near three hundred tons: the expence of it amounted to above eleven thousand pounds; and the whole expence of building

this cathedral is said to have amounted to 736,752 l. 2 s. 3 d.

At the west end of the church, and within the rails, is a marble statue of the late Queen Anne, holding a sceptre in one hand, and a globe in the other, surrounded with four beautiful emblematical figures, representing Great Britain, France, Ireland, and America.

The cathedral church of Canterbury is a large and noble pile of building, where there are still very curious remains of painted glass to be seen in the windows. It is entirely vaulted with stone, and of a very pretty model, though much too high for its breadth. The middle tower is very beautiful; but the tower and spire at the west end and west front are very mean; and, if we suppose the whole fabric was erected at once, very little symmetry was observed by the architect. The Metropolitan chair is of grey marble, and stands behind the high altar. The cloisters are tolerably good, and near them is situated a very large chapel, called the Sermon-house; under which is a large Protestant French church, given by queen Elizabeth to the Walloons, who fled here from the persecution of the duke d'Alva. The number of these refugees has been since very much increased by French protestants obliged to leave their native country, through the cruelty of Lewis XIV.

The cathedral church at York, having been burnt down in the reign of King Stephen, the present fabric was begun in the time of Edward the First. It is a Gothic building, dedicated to St. Peter, and by some esteemed the finest in England, if not superior to any thing of the kind in Italy. The west front is adorned with two regular towers, connected and supported by an arch, which forms the west entrance, and is supposed the largest Gothic arch in Europe: over this arch is a magnificent window, upwards of thirty feet in breadth, and seventy-five feet in height, beautifully painted with scripture history, in a hundred and seventeen partitions. At the east end of the church is another window, corresponding to this. On the south side is a circular window, called the Marigold window, from the glass being stained of the colour of marigold flowers; and, on the north side, is a very large window, the painting on which represents a rich embroidery of Mosaic needlework: it is divided into five partitions, and is said to have been erected at the expence of five maiden sisters. The most remarkable defect of this church appears in the lanthorn steeple, which terminates but indifferently, though it is finely ornamented, and has eight stately windows, measuring forty-five feet from top to bottom. At the end of the choir, behind the altar, to which there is a graceful ascent of sixteen steps, there is a stone screen, and another separating the choir from the church, both beautifully wrought. The front of the choir is adorned with statues of all the
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kings of England, from William the Conqueror to king Henry the Sixth; and here are thirty-two stalls, all of fine marble, with pillars, each consisting of one piece of alabaster.

This church extends in length 525 feet, in breadth a hundred and ten feet, and in height ninety-nine feet; the length of the cross isles is 222 feet, and the nave is the biggest of any, except that of St. Peter's church at Rome. In the south tower, on the west side, is a deep peal of twelve bells, the tenor of which weighs fifty-nine hundred weight.

The chapter-house of this cathedral is esteemed one of the neatest Gothic structures in England. It is of an octagon form, sixty-three feet in diameter, without any pillar to support the roof, which rests upon one pin, placed in the center. The windows are finely painted; and within is the following barbarous verse, in gilt letters, which shews the high conception entertained of the excellence of this structure by those who lived at the time it was erected:

Ut rosa flos florum, sic est domus ista domorum.

Next to York cathedral, in point of extent, is that of Lincoln, which is a stately Gothic pile, and of which the monks thought so highly, that they used to say, the devil could never look upon it without frowns of discontent and malignity; whence came the proverb, generally applied to malicious and exasperated persons,

sons, ' He looks as the devil over Lincoln.' It is a lofty and magnificent structure, and, standing on a high ground, may be seen over five or six counties, fifty miles to the north, and thirty to the south. In this church are some windows, called catharine-wheel windows: here are a chapter-house, cloisters, and a library, that are much admired; and here is a bell of an enormous size, called Tom of Lincoln, which is twenty two feet eight inches in circumference, weighs near five tons, and will hold 424 gallons, ale measure.

Salisbury cathedral is of a Gothic building, the most elegant and regular in the whole kingdom. It was begun in the year 1219, and finished in 1258, at the expence of 26,000 l, a very large sum for those days; and was consecrated in the presence of king Henry the Third, and a great number of the bishops and nobility. It is in the form of a lanthorn, with a beautiful spire of free-stone in the middle, which is four hundred and ten feet high, being the tallest in England. The length of the church is 478 feet, the breadth is 76 feet, and the height of the vaulting 80 feet. The outside of this noble fabric is truly magnificent, being entirely composed of buttresses and windows: the windows are said to be as many in number as the days in a year; and the pillars and pilasters as the hours in a year: the doors are twelve in number, equal to the months of the year.

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The pillars and pilasters of this church are a sort of fusile, or cast marble ; the art of making which, is either quite lost, or but little understood. The inside is, however, by no means answerable to the out ; for though the carving be good, the painting is but indifferent.

The bells for the service of this church, which are eight in number, hang in a strong, high-built steeple, erected in another quarter of the church-yard : the walls of the spire, which towards the top are little more than four inches thick, being judged too weak for such a weight of metal ; so that in the cathedral there is only one bell, which rings when the bishop comes into the choir.

This church has a cloister 150 feet square, of as fine workmanship as any in England. The chapter-house, which is an octagon, is 150 feet in circumference, and yet the roof bears all upon one small pillar in the center ; so much too weak, in appearance, for the support of such a prodigious weight, that the construction of this building is thought one of the greatest curiosities of the kind in Europe.

The cathedral church of Peterborough was an abbey church ; and, though it is said to be more than a thousand years old, is one of the noblest Gothic buildings in the world : it is 479 feet long, and 203 broad, in the transept, from north to south ; the breadth of the nave and side isles, is 91 feet ; the west front, which

is 156 feet broad, is the most magnificent in England, being supported by three noble arches, with columns curiously adorned. The windows of the cloisters are finely stained with scripture history, the figures of the founders of the monastery, and its succession of abbots. Here is a monument of queen Catharine, who was divorced from king Henry the Eighth, and another of Mary queen of Scots, who were both buried in this cathedral; but the body of the queen of Scots was afterwards removed to Westminster-abbey by her son, king James the First. Here is likewise a monument of one Scarlet, the sexton, who died at the age of ninety-five, after having, as his epitaph declares, buried both the queens, and two successive generations of all the housekeepers in the town. The abbot of Crowland, in Lincolnshire, and his monks, flying to this monastery for protection from the Danes, were overtaken, and murdered in a court of the abbey, called the Monks church-yard, because they were all buried in it; and their effigies are still to be seen upon a tomb-stone which was erected over their common grave.

Winchester cathedral is a large and venerable fabric, was begun in the eleventh century, and not finished till the reign of Edward the Third, in the fourteenth. Instead of a steeple or spire, this church has only a short tower, about 150 feet high, with a flat covering. The length of it from east to west is 545 feet, including a chapel at the east end, called our Lady's Chapel, which is 54 feet long; and the breadth of the

the body and cross-aisles 87 feet; the choir is 136 feet long, and 40 broad; the length of the great cross-aisle is about 186 feet; the nave, or western body of the church, is above 300 feet long, and esteemed the most spacious in England. The roof of the choir is adorned with the arms of the Saxon and Norman kings. The font, which was erected in the time of the Saxons, is of black marble, and ornamented with sculptures in basso relievo, representing the miracles of some saint belonging to this church. The ascent to the choir is by eight steps, at the top of which are two copper statues finely cast; one of king James the First on the right hand, and the other of king Charles the First on the left. The bishop's throne, and the stalls of the dean and prebendaries, are beautifully adorned with gilt carved work; the ascent to the altar is of marble steps; and the pavement is very curious, being inlaid with marble of different colours, and forming a variety of figures. The altar-piece, which is by much the noblest in England, consists of a lofty canopy of wood-work, projecting over the communion table like a curtain, with gilt festoons hanging down from it, and other ornaments. The communion rail is neat; and on each side of the altar are stone vases, with golden flames issuing out to the roof of the church; the great east window is remarkable for the paintings upon the glass, representing various saints and bishops of this church. Several of our Saxon kings are interred here; and in this church lies the marble coffin

of king William Rufus. Here are several pompous monuments, among which is that of William of Wickham, who was bishop of this church when it was finished.

The cathedral church of Durham is a magnificent pile, 411 feet long, and 80 broad, with three spacious aisles, one in the middle, and one at each end: that in the middle is 170 feet long, the eastern aisle is 132 feet long, and the western 100 feet. In the western aisle was a chapel of the Virgin Mary, called Galilee; the outside of this chapel was adorned with two handsome spires, covered with lead, the towers of which are still standing. The eastern aisle was formerly called the Nine Altars, because in the front, facing the church, there were so many erected; that is, there were four in the north part of the aisle, four in the south, and one in the middle. The middle one, which was dedicated to St. Cuthbert, the patron of the church, was the most beautiful, and near it was a rich shrine of that saint. The whole building is strongly vaulted, and supported by large pillars. The wainscot of the choir is well wrought. At the entrance into it, there is a handsome screen, 117 feet long, and 33 broad. Many of the windows are very curious, particularly the middle one to the east, which is called the catherine-wheel window; it fills all the breadth of the choir, and is composed of twenty-four lights: in the south end of the church was a window, called St. Cuthbert's, in which was painted the history of the

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life

life and miracles of that saint. On the north side was a third window, on which the history of Joseph was painted, and which was therefore called Joseph's window. In the chapel, called Galilee, the women, who were not allowed to go farther up than a line of marble by the side of the font, used to hear divine service; and at that time it contained sixteen altars for the celebration of mass; but it is now used for holding the consistory court.

This cathedral is adorned with a fine cloister on the south side, formerly glazed with painted glass. On the east side is the chapter-house, deanery, and a building called the old Library. The chapter-house, in which sixteen bishops are interred, is a stately room, seventy-five feet long, and thirty-three broad, with a vaulted arched roof of stone, and a beautiful seat at the upper end, for the installation of the bishops. On the west side of the cathedral is the dormitory, and under that are the treasury and song-house. On the north is the new library, which is a large, lightsome building, on the site of the old common refectory of a convent.

Litchfield cathedral, which was founded in 1148, suffered much in the civil wars under Charles the First; but being repaired after the restoration, is now one of the noblest Gothic structures in England. It extends in length, on the inside, 450 feet, of which the choir is 110 and 80 feet in breadth. There is a fine lofty steeple over the middle of the church: the front

is adorned with a good portico, and over that are two corresponding spires. Above the portico are twenty-six statues of the prophets, apostles, and kings of Judah, as big as the life. There are also several statues on the inside of the church; the choir is in great part paved with alabaster and cannel coal, in imitation of black and white marble, and behind the choir is a neat chapel.

The cathedral church of Gloucester is an ancient, but magnificent fabric, and has a tower, which is thought to be one of the neatest and most curious pieces of architecture in the kingdom; and in this church are twelve chapels, adorned with the arms and monuments of many great persons, and the tombs of king Edward the Second, and Robert duke of Normandy, son of William the Conqueror. There is also a gallery over the east end of the choir, leading from one side of it to the other, which is deemed a great curiosity as a whispering place.

The cathedral church of Chichester is built in the form of a cross, and has two side aisles. The pictures of all the kings and queens of England since Cissa, a Saxon monarch, who made this place his royal seat, adorn the north wall of the south cross; and, on the opposite, are placed those of all the bishops. The spire is a piece of excellent workmanship, three hundred feet high; but some years ago it received such a shock from lightening, as endan-

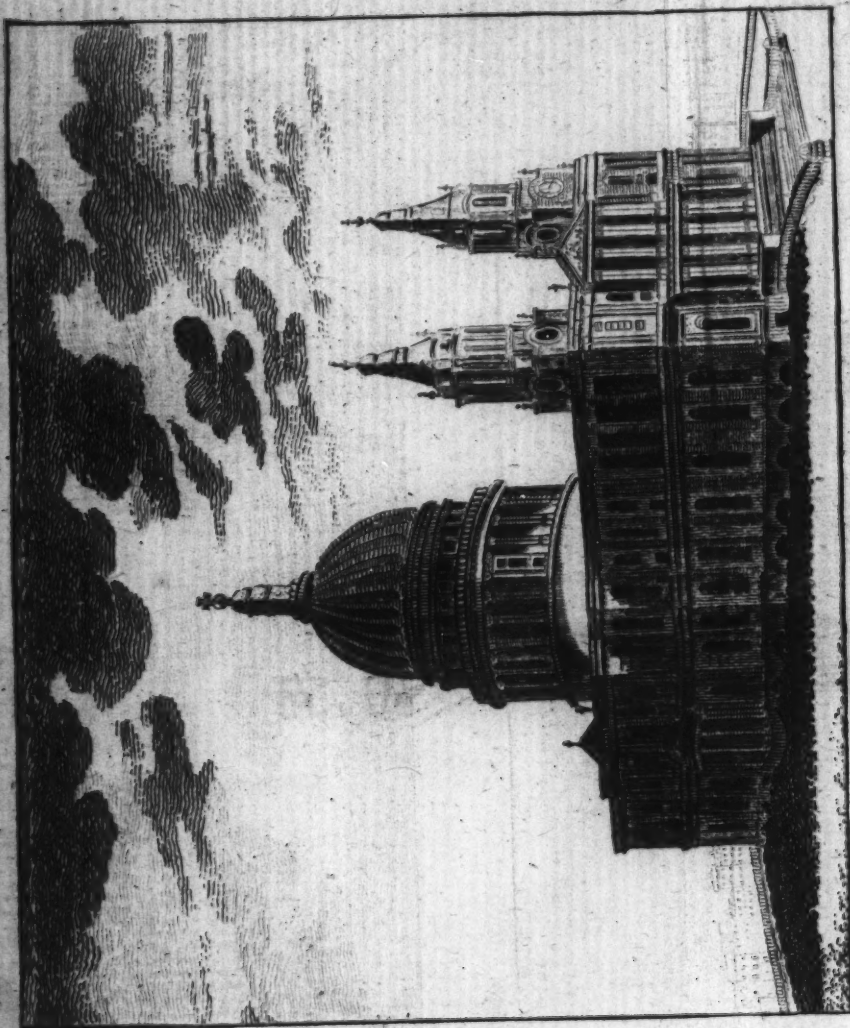
gered the whole steeple; upon which it fell with such irresistible force, that it drove several great stones out of it, and carried them to a prodigious distance. The breach in the spire, occasioned by this accident, was incredibly large, and within about forty-five feet of the top; notwithstanding which, the steeple stood fast, and was soon after very substantially repaired.

The cathedral of Exeter is dedicated to St. Peter, and is a curious and magnificent fabric, which, though it was four hundred years in building, looks as uniform as if it had had but one architect. It is vaulted throughout, being 390 feet long, and 74 broad: it has a ring of bells, supposed the largest in England; as is also its organ, the principal pipe of which is fifteen inches diameter. The dean and chapter have their houses round the cathedral, which form a circuit called the Close, because it is enclosed, and separated from the city by walls and gates. Within this enclosure are two churches for the service of the cathedral. The dean, chanter, chancellor, and treasurer, are the four dignitaries of this cathedral.

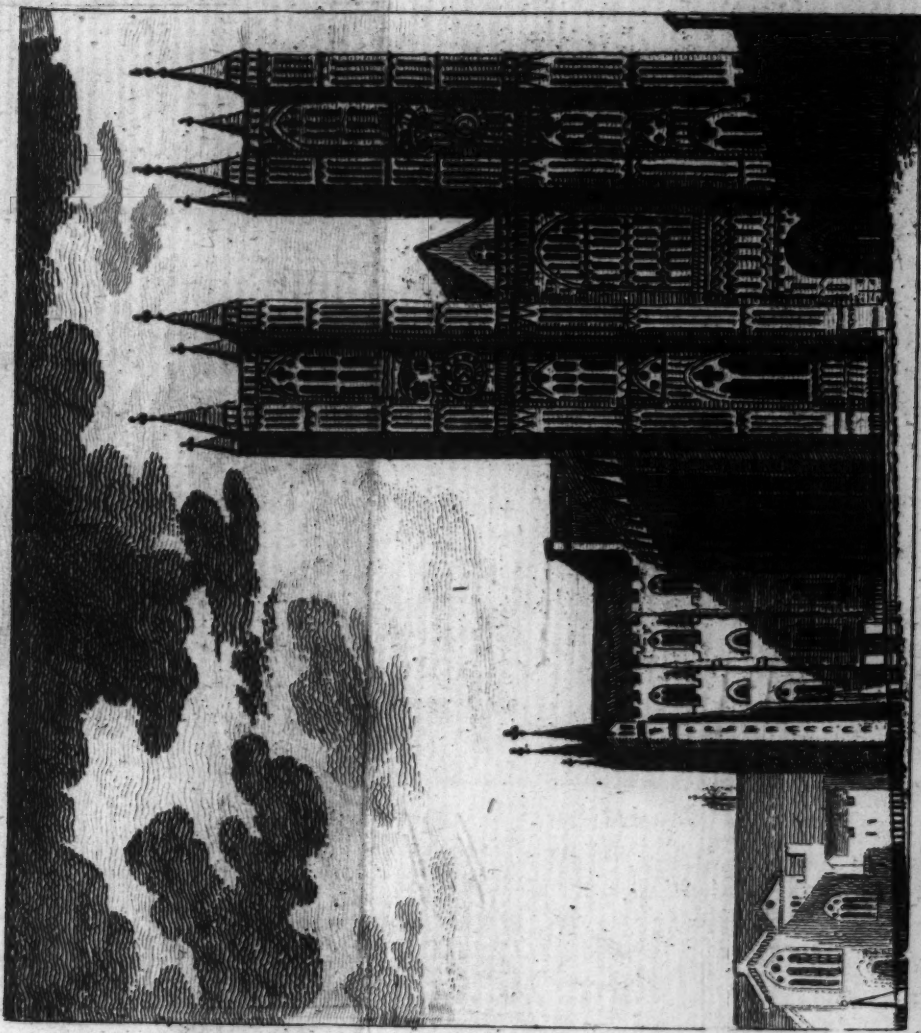
The cathedral of Norwich is a large, venerable, and ancient structure, of excellent workmanship, founded in the year 1096 by bishop Herbert, who laid the first stone. The choir is spacious, the steeple strong and very high, and the roof is adorned with historical passages of scripture, expressed in small images well carved.

Worcester





ST. PAUL'S.



WESTMINSTER ABBEY.

Worcester cathedral is a large, but not very elegant structure. It is 394 feet long, 78 broad, and has a tower 162 feet high, together with a chapel on the south side, which is 120 feet long, and of very curious workmanship. In the middle of the choir of this cathedral, king John lies buried between two pious bishops, as directed by his will. Prince Arthur, elder brother to king Henry VIII. is also interred in a small, but neat chapel belonging to this church.

Besides these, there are some other churches in England which are no cathedrals, that are deemed objects of curiosity, and merit particular notice.

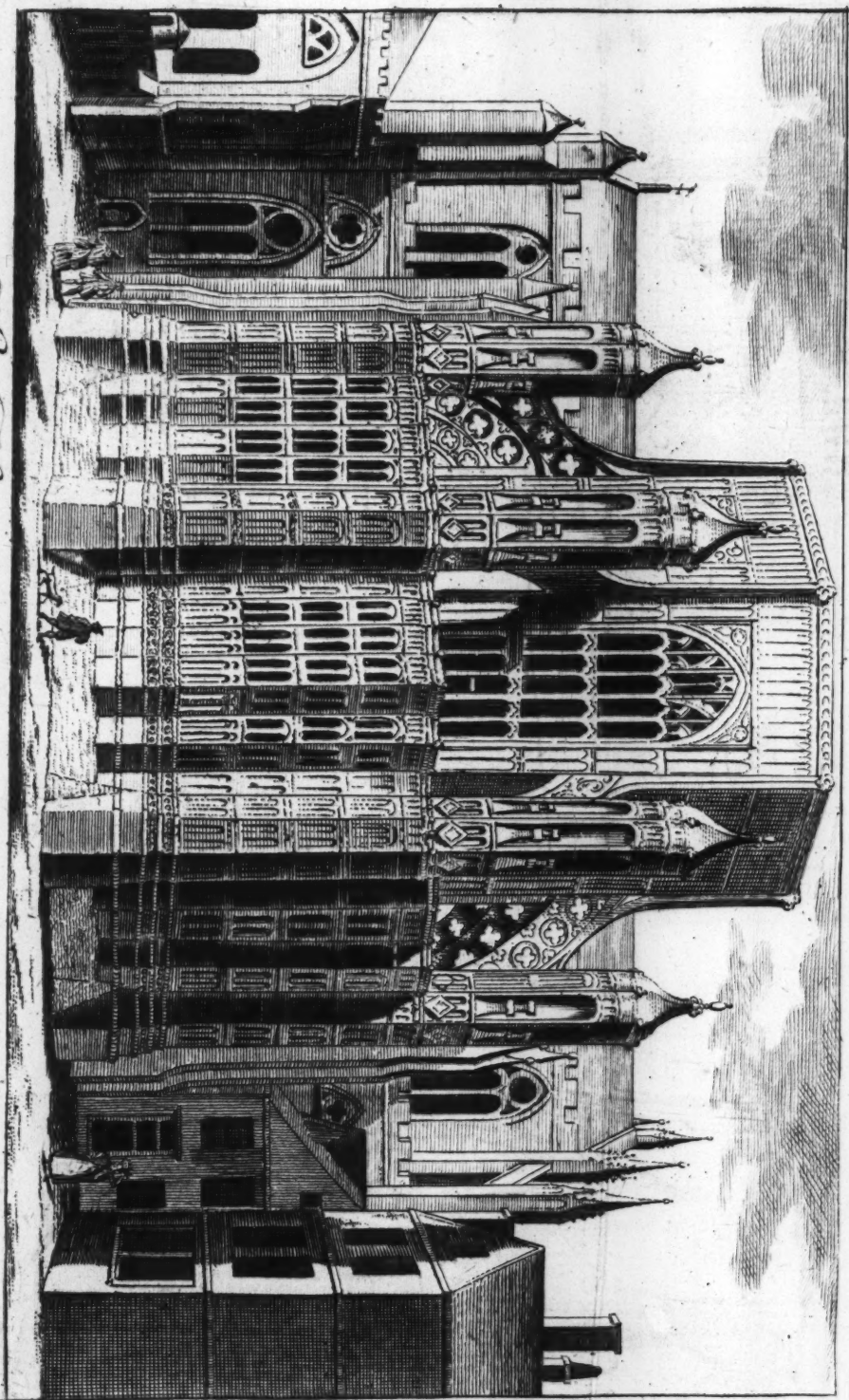
Of such, the most remarkable is the abbey church of St. Peter in Westminster, so called from having been the church of a convent, dedicated to St. Peter, which was destroyed by the Danes in 850. It was, however, rebuilt by king Edgar, and enlarged by Edward the Confessor; but the present magnificent church was erected in the time of king Henry the Third. It suffered much by fire in 1274; but was repaired by Edward the First, Edward the Second, and the abbots. In 1700, this church being much decayed, the parliament granted money for repairing it, as it has done often since.

The form of this church is that of a long cross; its length is 489 feet, and the breadth of the west front 66 feet; the length of the

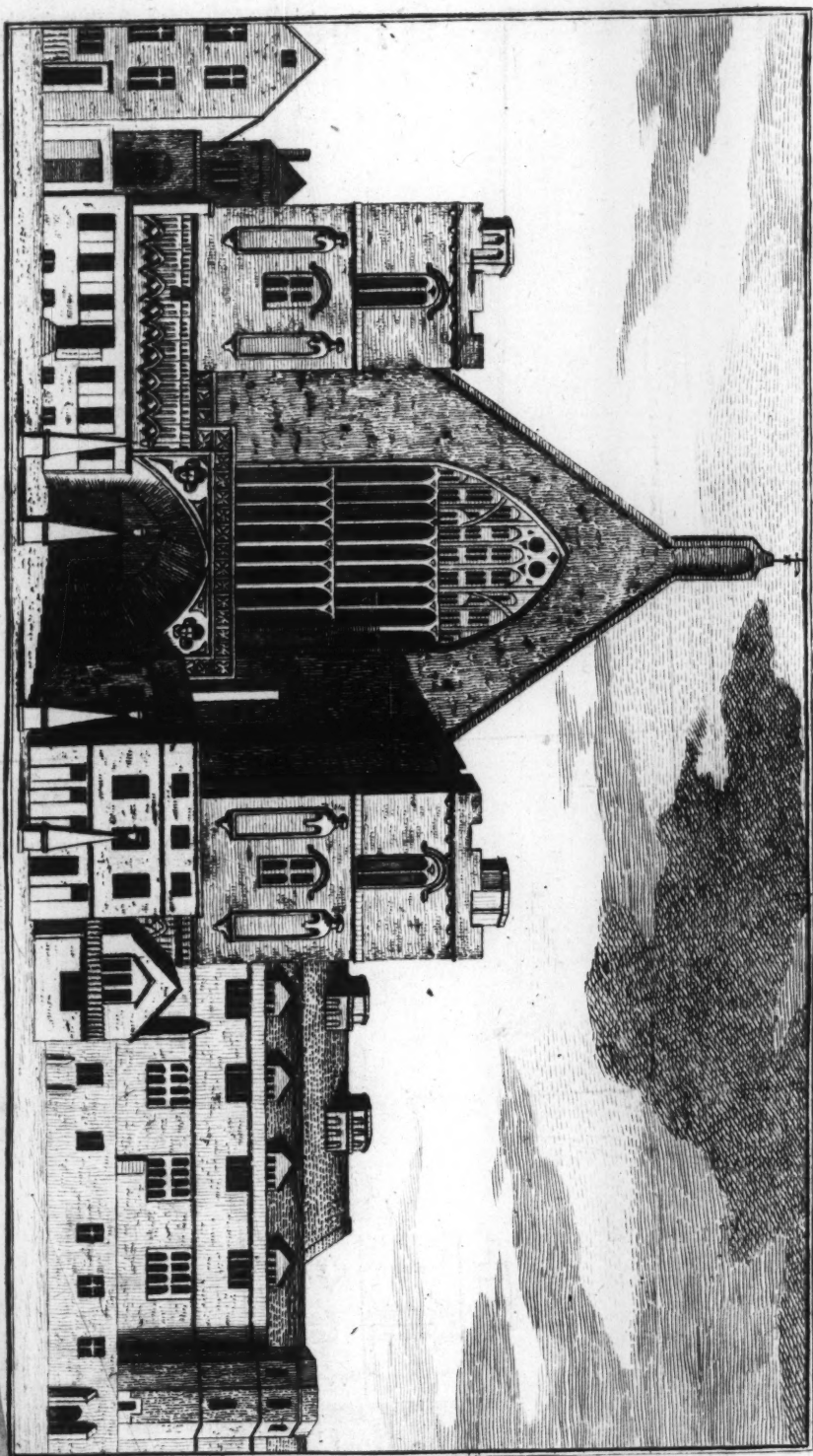
cross aisle is 189 feet, and the height of the roof 92 feet. At the west end are two towers: the nave and cross aisle are supported by fifty slender pillars of Suffex marble, about twelve feet and an half asunder, besides pilasters. There are ninety-four windows in the upper and lower ranges, all which, with the arches, roofs and doors, are in the antient Gothic taste. The inside of the church is much better executed than the outside; the perspective is good, particularly that of the grand aisle; the choir, from which there is an ascent by several steps to a fine altar-piece, is paved lozenge-wise with black and white marble, and has twenty-eight stalls on the north, as many on the south, and eight on the west end.

In this church, which is the depositary of our illustrious dead, there are twelve sepulchral chapels, containing several antient and curious monuments of the kings, queens, and nobility of this country: these are the chapels of Edward the Confessor, Henry the Seventh, St. Benedict, St. Edmund, St. Nicholas, St. Paul, St. John Baptist, St. Erasmus, St. John the Evangelist, St. Michael, St. Andrew, and St. Blaise. Of these chapels, that built by Henry the Seventh is particularly beautiful and magnificent. At the east end is a large window finely painted; at the west, three spacious portals of solid brass, which open into the room where the lower house of convocation formerly sat; the roof, which is of stone, is divided into sixteen circles of curious workmanship,
and





King Henry the Seventh's Chapel.



Page 71.

W. B. Woodbury. 1841.



and supported by pillars and arches of the Gothic order, enriched with figures of fruit and other ornaments. Here are a great many statues in niches; and in this chapel is the tomb of the royal founder and his queen, whose figures lie on it at full length in solid brass, richly gilt and ornamented, with a variety of other figures: the tomb is surrounded by a screen or fence of solid brass, adorned with pillars and arches, and enriched with roses and other ornaments, all of excellent workmanship.

Besides the monuments contained in these chapels, there are many worthy of observation in the several aisles of this church, in memory of our poets, philosophers, heroes and patriots, a particular account of which would fill a large volume.

The parish church of St. Stephen's, Walbrook, in the city of London, deserves particular mention, being justly reputed the masterpiece of the celebrated Sir Christophen Wren, and thought to exceed every modern structure in the world, in proportion and elegance. It has a steeple which rises plain to a considerable height, and is then surrounded with a balustrade, within which rises a very light and elegant tower in two stages; the first adorned with corinthian, the second with composite columns, and covered with a dome, whence rises the vane. The outside of this church is plain, and void of ornament, but in the center of the roof

is a large dome, which, being eclipsed by the adjacent building, cannot be seen to advantage; but on the inside, this noble dome is found finely proportioned to the church, and divided into small compartments decorated with great elegance, and crowned with a lanthorn, while the roof, which is also divided into compartments, is supported by very fine Corinthian columns, raised on their pedestals.

This church has three aisles and a cross aisle, is seventy-five feet in length, and thirty-six in breadth; the height of the middle roof is thirty-four feet, and of the cupola and lanthorn fifty-eight feet; on the sides, under the lower roofs, are only circular windows; but those which enlighten the upper roof are small arched ones; and at the east end are three very noble arched windows.

The church of St. Mary le Bow, in London, is the most eminent parochial church in the city, and deserves particular mention here, from its steeple, which is thought a master-piece in a peculiar kind of building, that has no fixed rules to direct it, and that cannot be reduced to any settled laws of beauty. It is observed of this steeple, that, if it be considered only as a part of some other building, it can be esteemed no other than a pleasing absurdity; but if considered either in itself, or as a decoration of a whole city in prospect, it is not only to be justified, but admired,

It is extremely light in its aspect, and is thought to be the most beautiful thing of its kind in the world. The tower is square from the ground, but with more ornament as it advances. The principal decorations of the lower part, is the entrance, which is a lofty, noble, and well proportioned arch, on two of the sides faced with a bold rustic, and raised on a plain solid course, from the foundation. Within the arch is a portal of the Doric order ; the freeze ornamented with triglyphs, and with sculpture in the metopes ; over this arch is an opening with a small balcony, which answers to a window on the other face. The first stage is terminated by an elegant cornice, over which again rises a plain course, where a dial projects into the street called Cheapside. Above this is in each face large arched windows, with coupled Ionic pilasters at the sides near the corners.

The cornice over these windows supports an elegant balustrade, with attic pillars over the Ionic columns, supporting turrets, each composed of four handsome scrolls, which join at the top, where are placed urns with flames. From this part, the steeple rises circular, and is a plain course to the height of half the scrolls, and upon this are raised a circular range of Corinthian columns, while the body of the steeple is continued round and plain within them ; these support a second balustrade, with very large scrolls extending from it to the body of the steeple. Above these is placed a series of composite columns, and from the entablature
rises

rises another set of scrolls supporting the spire, which rests upon four balls, and is terminated by a globe, whence rises a vane in the form of a dragon.

There are many other noble and magnificent churches in London and Westminster, which might be taken notice of as excellent pieces of architecture: but as it is agreeable to the plan of this work, to mention such buildings only as are most remarkable, we shall finish the account of the London churches by a short view of the parish church of Covent Garden, which was built by the celebrated Inigo Jones, and is esteemed by the best judges one of the most simple and perfect pieces of architecture in the world. In the front, is a plain but noble portico of the Tuscan order, the columns are massy, and the intercolumniation large, which has an air of noble simplicity; the building, though as plain as possible, is happily proportioned; the roof is flat, and though of great extent, is supported by the walls alone without columns; the walls are brick covered with plaister, and the corners of stone.

Before Covent Garden church is a square containing some acres of ground, called Covent Garden market; being the best market in England for herbs, flowers, and fruit: the church forms almost all the west side of this square, on the north side and part of the east is a magnificent piazza, designed by Inigo Jones, which, if carried round, according to the plan
of

of this celebrated architect, would render it beyond dispute one of the finest squares in Europe.

At Boston in Lincolnshire, is a church esteemed the largest parochial church, without cross isles, in the world, being 300 feet long within the walls, and 100 feet wide: the ceiling is of Irish oak, supported by twenty-four tall slender pillars. This church is said to have 365 steps, fifty-two windows, and twelve pillars, answering to the days, weeks, and months of the year: its tower, which was built in the year 1309, is 282 feet high; and has a beautiful octagon lanthorn at the top, which serves as a guide to mariners on that dangerous coast, and is the admiration of travellers, being seen at the distance of forty miles round.

At Grantham in the same county, is a fine large church, with a stone spire, one of the loftiest in England, being 280 feet high, but so constructed as to appear inclining from the perpendicular, on which side soever it is viewed.

At Fairford in Gloucestershire is a large handsome church, with twenty eight windows of the finest painted glass in England, representing some of the principal events related in the Old and New Testament, designed by the famous Italian Albert Durer. In the west window, the last judgment is admirably represented, and some of the figures in these windows are so well

well performed, that Vandyke was of opinion, they could not be exceeded by the pencil. The glass was found on board a ship bound to Rome, that was taken as a prize by one John Tame, a merchant. When he brought it to England, he purchased the manor of King Henry the Seventh, and built this church, on purpose to put the glass in it, where, by much care, it has been preserved to this day.

St. Mary's church in the city of Oxford, is remarkable for a noble and beautiful tower, 180 feet high, with a spire richly ornamented with gothic workmanship: it contains six remarkably large bells, by which notice is given to the university for scholastic exercises, convocations, and congregations. This church consists of three isles with a spacious choir, and in this structure the university hear sermons on Sundays and holidays. The pulpit is placed in the center of the middle isle; at the west end of it stands the vice chancellor's throne, and at the foot of that are seated the thrones of the two proctors: there are seats which descend on either side, appointed for the doctors and heads of houses, and beneath these are seats for the young nobility: the area of the church consists of benches for the masters of arts: on the west end, with a return to the north and south, are galleries for the under graduates and batchelors of arts.

Christ-church at Oxford is the cathedral of the diocese, and the church of a college of the same name. Christ-Church college consists of
four

four quadrangles, one of which, distinguished by the name of the grand quadrangle, is 264 by 261 feet in the clear.

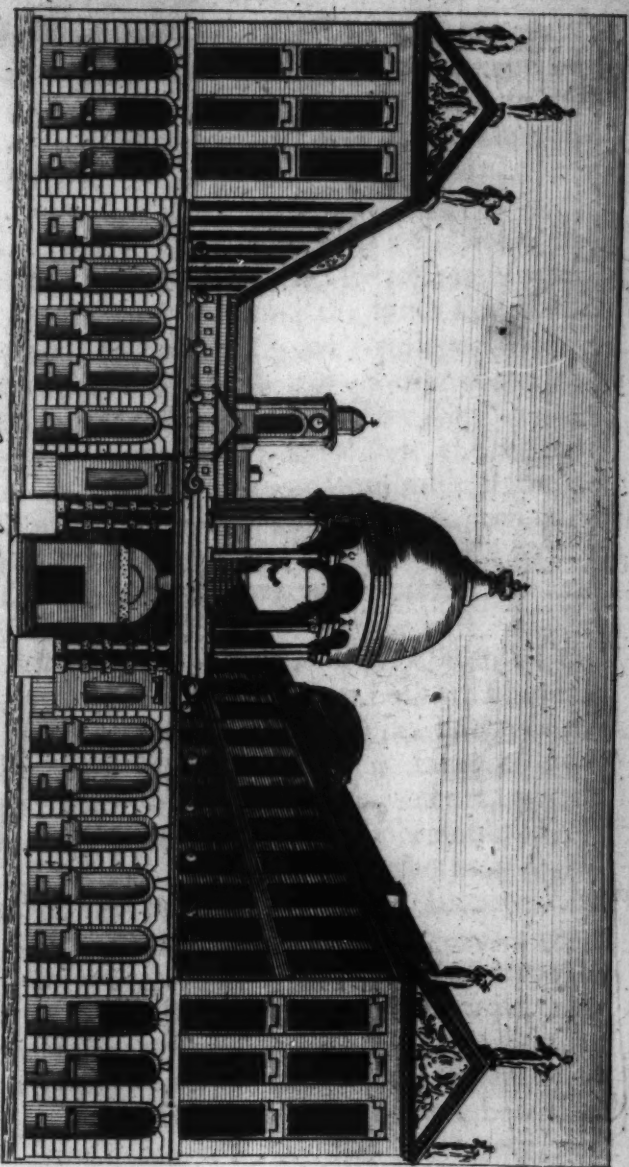
There is a noble tower over the grand entrance, in the center of the stately front of the college, which is extended 382 feet, and terminated at each end by two corresponding turrets. The gothic proportions and ornaments of this grand entrance are remarkably magnificent. In the tower are two musical bells and a great bell, called Tom, that weighs near 17000 pounds; and on the sound of which the students of the whole university are enjoined by statute to repair to their respective societies.

The greatest part of the south side of the grand quadrangle is formed by the hall, which is considerably elevated above the rest of the building, and, taken as a detached structure, is a noble specimen of antient magnificence. This room is probably the largest, and certainly the most superb of any in the kingdom: it contains eight windows on each side, and is one hundred and twenty feet in length, forty in breadth, and its cieling eighty feet high.

Peckwater court, to the north-east of the grand quadrangle, is perhaps the most elegant edifice in the university: it consists of three sides, each of which has fifteen windows in front.

Of the nineteen other colleges belonging to this university, the most remarkable in point of building, are the following:

Queen's college, which stands on the north side of the High street: this college has a front which is formed in the stile of the palace of Luxemburg, and is at once magnificent and elegant. In the middle of it is a superb cupola, under which is a statue of the late Queen Caroline. This college is one entire piece of well executed modern architecture; the whole area on which it stands, is an oblong square 300 feet in length and 220 in breadth, which area being divided by the hall and chapel, is formed into two courts: the first, or south court, is 140 feet in length, and 130 in breadth: it is surrounded by a beautiful cloister except on the north side, which is formed by the chapel and hall, and finely finished in the doric order. In the centre over a portico leading to the north court, stands a cupola supported by eight Ionic columns. The north court is 130 feet long and 90 broad, on the west stands the library, which is of the corinthian order: on the east side of this edifice runs a cloister, its west side is adorned with statues of the founder, the benefactors, and other pieces of sculpture: the room within is highly finished. The book-cases, which are of Norway oak, are well carved, and in the ceiling are some admirable compartments of Stucco. The chapel, which is 100 feet long and 30 broad, is ornamented in the Corinthian order, with a beautiful ceiling of fret work



View of Queen's College Oxford.

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and the windows are all of fine painted glass: the hall is fitted up in the Doric order, and has an admirable proportion: it is 60 feet long and 30 broad, with an arched roof of a correspondent height.

University college, which is a spacious, superb, and uniform structure, extends its magnificent front 260 feet, along the south side of the high street, opposite to Queen's college, having two stately portals, with a tower over each: the western portal leads to a handsome Gothic quadrangle, of 100 feet square. Over the eastern portal, on the outside, is an admirable statue of Queen Mary. On the south of the eastern quadrangle are the chapel and hall, in which buildings there is nothing very remarkable.

New College is separated from Queen's College, by a narrow lane on the south. The first court is about 168 feet in length, and 129 in breadth, and in the centre is a statue of Minerva. The north side of this court, which consists of the chapel and hall, is a noble specimen of Gothic magnificence: the two upper stories of the east side form the library; the chapel, for beauty and grandeur, exceeds all in the university. The ante-chapel, which is supported by four pillars of fine proportion, runs at right angles to the choir, and is eighty feet long and thirty-six broad; the entrance to the choir is by a Gothic screen, of a beautiful construction: the choir is 100 feet long, 35 broad, and 65 high; and the windows and altar-

altar piece are finely painted ; near the chapel is a cloister 146 feet in length on two sides, and 105 the other two : contiguous to it on the north is a large and lofty tower, with ten bells. The hall is an august Gothic room seventy-eight feet long, thirty-eight broad, and forty-three high : it is adorned with several fine portraits, and the wainscot is curiously carved.

In the burfary is shewn the crozier of William of Wickham, bishop of Winchester, who founded this college in 1386 : this is one of the noblest curiosities, and almost the only one of its kind, now remaining in Britain : it is nearly seven feet high, and consists of silver gilt, embellished with a variety of the nicest Gothic workmanship, charged with figures of angels, and the tutelar saints of the cathedral church of Winchester, executed with an elegance equal to that of a more modern age. It is finely preserved ; and, from a length of almost four hundred years, has lost but little of its original splendor and beauty.

From the first quadrangle there is a passage into another, called Garden-court, the beautiful area of which, by means of a succession of retiring wings, displays itself gradually in approaching the garden, from which it is separated by an iron pallisade, 130 feet in length.

All-Soul's College is situated in High-street westward of Queen's College, and consists of
two

two courts : the first court is a Gothic edifice, 124 feet in length, and seventy-two in breadth : the chapel on the north side is a stately pile : the ante-chapel, in which there are some remarkable monuments, is seventy feet long, and thirty broad : the entrance to the inner chapel, which is of the same dimensions, is by a grand flight of marble steps, through a screen constructed by Sir Christopher Wren. The spacious environ of the altar consists of the richest red veined marble, and is adorned with fine painting : the ceiling is disposed into compartments, embellished with carving and gilding, and the whole has an air of splendor and dignity.

The hall, which forms one side of an area to the east, is an elegant modern room, adorned with many portraits and busts. Adjoining to the hall is the buttery, which is a well-proportioned room, of an oval figure, and an arched stone roof, ornamented with curious workmanship.

The second court is a magnificent Gothic quadrangle, 172 feet in length, and 155 in breadth. On the south are the chapel and hall ; on the west a cloister, with a grand portico ; on the north a library ; and on the east two superb Gothic towers in the centre of a series of fine apartments.

The library exceeds every thing of the kind in the university, being 200 feet in length,

thirty in breadth, and forty in height: and finished in the most splendid and elegant manner, being founded by Colonel Codrington, at the expence of 10,000 l. the room is furnished with two noble arrangements of book-cases, one above the other, supported by Doric and Ionic pilasters; the upper class is formed in a superb gallery, which surrounds three sides. About the middle of the room, on the north side, is a recess equal to the breadth of the whole room, and in its area is placed the statue of Colonel Codrington the founder: the ceiling and spaces between the windows are ornamented with the richest stucco. Over the gallery a series of bronzes is interchangeably disposed, consisting of vases and busts of many eminent men, formerly fellows of this house.

Magdalen College is situated without the east gate of the city, on the bank of the river Cherwel. A Doric portal, decorated with a statue of the founder, leads to the west front of this college, which is a striking specimen of the Gothic manner. The gate under the west window of the chapel is adorned with five small but elegant figures. In this front is a stately gateway, the original entrance into the college, but since disused. The first court is a venerable old quadrangle, surrounded by a cloister, on the south side of which are the chapel and hall; the windows of the chapel are finely painted; the hall is a stately Gothic room, adorned with fine paintings. From this court

court there is a narrow passage on the north, that leads to a beautiful opening, one side of which is bounded by a noble and elegant edifice, in the modern taste, consisting of three stories, and 300 feet in length.

The public schools of this university, of which there is one for every college, form the ground apartments of a magnificent quadrangle; the principal front of which, on the outside, is about 175 feet in length. In the centre of this front there is a noble tower, the highest apartments of which are appointed for astronomical observations and philosophical experiments: the inside of this part must please every lover of antient grandeur. Three sides of the upper story of the quadrangle are one entire room, called the picture gallery, which is furnished with portraits of founders, benefactors, and other eminent persons, as also with cabinets of medals and cases of books. This quadrangle was first built by Queen Mary, and was rebuilt chiefly at the expence of Sir Thomas Bodley, in the time of King James the First, who also partly erected a public library here, which he furnished with such a number of books and manuscripts, that, with other large donations, it is now become one of the principal libraries in Europe, and is called the Bodleian Library. The building is a part or member of the picture gallery over the public schools, and consists of three spacious and lofty rooms, disposed in the form of a Roman H.

The middle room was erected by Humphrey, duke of Gloucester, over the divinity school, about the year 1440, and by him furnished with books, all which have been since lost. The gallery on the west end was raised at the expence of the university, together with the convocation house beneath, in the time of Charles the First; and the vestibule or first gallery, with the proscholium under it, was built by Sir Thomas Bodley. The divinity school was begun at the expence of the university in 1427, and afterwards completed with its superstructure by duke Humphrey. Its ceiling is a most finished piece of Gothic masonry, both in design and execution, and on the whole it is probably the most complete Gothic room in this kingdom.

In one of the schools are placed the Arundelian marbles, and in another an inestimable collection of statues, &c. presented to the university by the countess dowager of Pomfret.

In the middle of a magnificent and superb square, formed by St. Mary's church, the public schools, and the two colleges of Brazen Nose and All Souls, stands the New or Radclivian Library, a sumptuous pile built upon arcades, which, circularly disposed, enclose a spacious dome, in the centre of which is the library itself, and into which there is an ascent by a flight of spiral steps, well executed. The library, which is a complete pattern of elegance and majesty in building, is adorned with fine

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compartments of stucco. It is enclosed by a circular series of arches, beautified with festoons, and supported by pilasters of the Ionic order. Behind these arches are formed two circular galleries, above and below, where the books are disposed in elegant cabinets: the compartments of the ceiling in the upper gallery are finely stuccoed: the pavement is of two colours, and made of a peculiar species of stone, brought from Hartz Forest in Germany: the finishing and decorations of this attic edifice are all in the highest taste imaginable; and over the door is a statue of the founder, Dr. John Radcliffe, a physician of great eminence, who left 40,000 l. to build a library for the Bodleian collection of books and manuscripts, with a salary of 150 l. a year to a librarian, and 100 l. a year towards furnishing it with new books. In consequence of this legacy, the first stone of the Radclivian library was laid on the 17th of May, 1737, and the library was opened, with great solemnity, the 13th of April, 1745.

There is belonging to this university another most magnificent structure, called the Theatre, erected for celebrating the public acts of the university, the annual commemoration of benefactors to it, with some other solemnities. The building is in form of a Roman D; the front of it, which stands opposite to the divinity school, is adorned with Corinthian pillars, and several other decorations: the roof is flat, and not being supported by columns or arch work, rests on the side walls, which are distant

distant from each other eighty feet one way, and seventy the other: this roof is covered with allegorical painting. The vice-chancellor, with the two proctors, are seated in the centre of the semicircular part; on each hand are the young noblemen and doctors; the masters of arts in the area; and the rest of the university and strangers in the galleries. This structure was built by Sir Christopher Wren in 1669, at the expence of Dr. Sheldon, archbishop of Canterbury, then chancellor of the university, who, having bestowed 15,000 pounds in building it, endowed it with 2000 l. to purchase lands for its perpetual repair.

On the west side of the theatre is an elegant modern structure, called the Ashmolean Museum, built also by Sir Christopher Wren, in the year 1683, at the expence of the university. Its front towards the street is sixty feet in length; it consists of two stories, and has a grand portico, remarkably well finished in the Corinthian order; the lower story is a chemical laboratory, and the higher is a repository of natural and artificial curiosities and Roman antiquities, chiefly collected by Elias Ashmole, Esq; and his father-in-law, Sir William Dugdale.

Near the Ashmolean Museum, and almost contiguous to the theatre, there is another building, called the Clarendon Printing-house, which surpasses every thing of the kind in Europe. It was founded in 1711, and built partly

partly by the money arising to the university from the profits of the copy of Lord Clarendon's *History of the Grand Rebellion*, the property of which was devised by his lordship to the university. This is a strong stone building, 115 feet in length, with spacious porticos in the north and south fronts, supported by columns of the Doric order; the top of the wall is adorned with statues of the Nine Muses, and of Homer, Virgil and Thucydides. The east part of the building is chiefly appropriated to the printing of Bibles and Common Prayer books, and the west is allotted to other books in the learned languages.

These are the most remarkable buildings belonging to the university of Oxford.

In the university of Cambridge, Clare-hall is reckoned one of the neatest and most uniform structures. It is a square building, three stories high; the materials are free stone, and the work is Doric; the court is entered by a lofty gatehouse, adorned with two rows of pillars. There is another building contiguous to the college, the upper story of which is the library, and the lower the chapel.

King's College, in the university of Cambridge, is an unfinished pile, the original plan of the building having been executed only in part; yet the chapel, though it was built by parts, at different and distant times, is said to be one of the finest in the world. It is 304 feet

feet long, 73 broad, and 94 high on the outside; yet it is supported merely by the symmetry of its parts, having no pillar within to sustain its roof, which, as well as the sides, is of freestone. The choir is adorned with excellent carving, and the windows are very curiously painted.

Trinity College, in this university, consists of two spacious squares or courts, in one of which a library has been lately erected of freestone, supported by two rows of pillars, and said to be one of the most noble and elegant structures of the kind in the world.

The great high kirk at Edinburgh, formerly the cathedral church of this city, is a magnificent structure. It stands in the principal street, called the High-street, and in the middle of the city, and is dedicated to St. Giles. It is built of hewn stone, in the form of a cross, and is adorned with some stone pillars and arches, and a tall stately tower, with a large open cupola of curious workmanship, representing an imperial crown. Here is a noble gallery for the King, or his commissioner, at the general assembly of the church of Scotland, who hold their sessions in a large chapel on the south-west part of this church. In the steeple there is a set of bells, which are not rung out; but all manner of tunes are played on them by the hand with keys, in the manner of a harpsicord; and this is performed every day, except Sundays and holidays, from half an hour after eleven o'clock in

in the forenoon, to half an hour after twelve, by a man who is paid a yearly salary for his trouble, from the city.

In the city of Glasgow is a church, which was formerly the cathedral of this diocese, and is dedicated to St. Mungo, who was bishop here about the year 560, and lies buried between four pillars in a part of the cathedral, called the Barony. This church is a vast and stately edifice; and the several rows of pillars, the very tall towers, and the lofty spire, which is the highest in Scotland, and rises from a square tower in the middle of the cross, render it a most admirable piece of architecture.

The college of this city is a very magnificent stately fabric, consisting of two large quadrangles, built with stone, adorned with a lofty tower, and many fine turrets, and separated from the city by a very high wall. The front of the college, which faces the city, is of hewn stone, and is esteemed a beautiful piece of architecture.

Old Aberdeen was the see of a bishop, and has a stately cathedral, called St. Machar's, in which is a most curious monument, erected to the memory of bishop Ephlingston, who rebuilt this church in the year 1500.

King's College, in the university of this place, is not inferior to any building of the kind in Scotland. It consists of one large

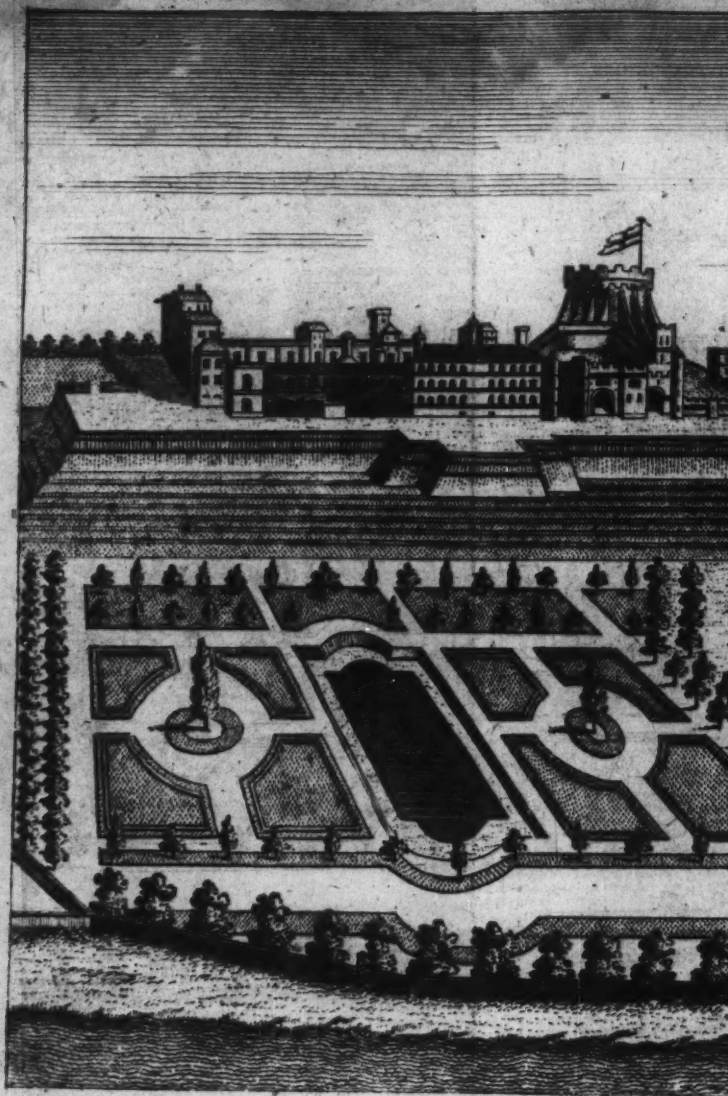
quadrangle; the church is of hewn stone, and has a fine tower the top of which is vaulted with a double cross arch, round that is a magnificent stone crown, with five coronets, supported by as many stone pillars, and a stone globe, with gilded crosses, closing the crown.

A church, dedicated to St. Magnus, at Kirkwall, in Pomona, one of the Orkney islands was formerly a cathedral; and though now but a parish church, is yet a beautiful and magnificent structure. It is built of free stone and has a fine steeple in the middle, erected on four large pillars: on each side are fourteen pillars, which support the roof; this church has three gates, chequered with red and white polished stones, embossed, and elegantly flowered.

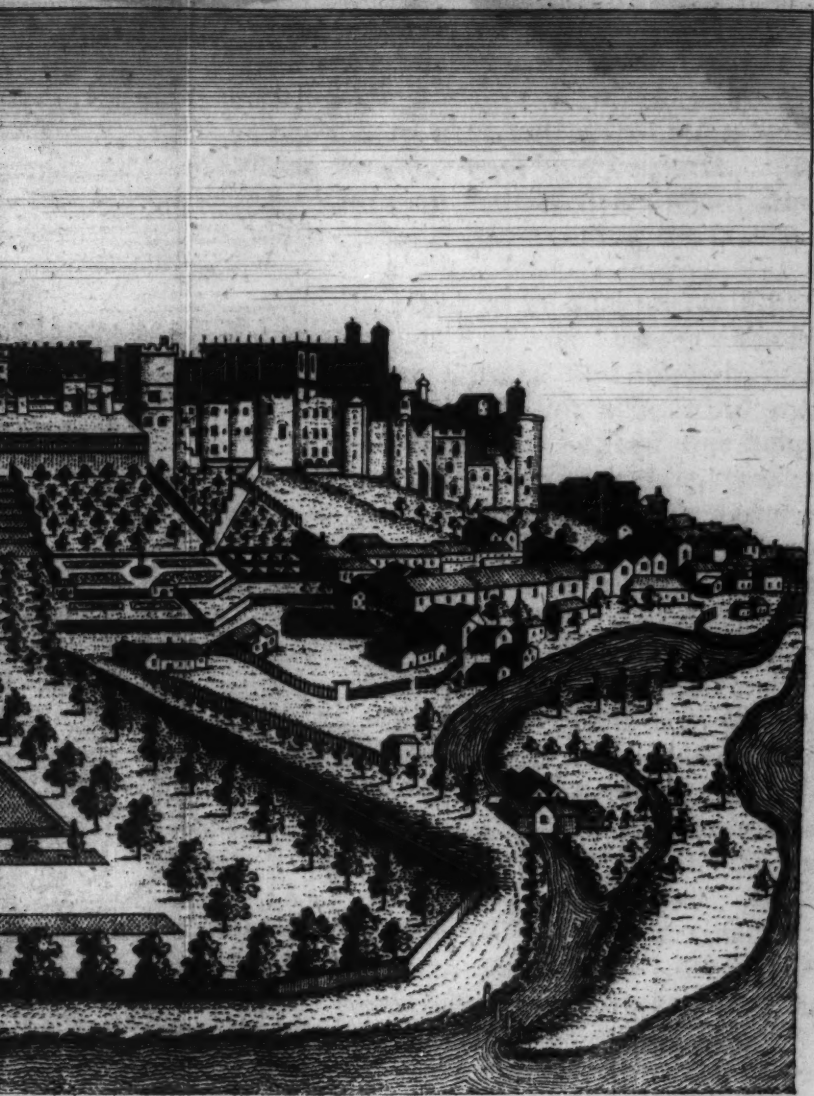
At Elgin are the ruins of a cathedral, which, from a part still standing, called the Prentices Isle, is supposed, in point of architecture, to have surpassed every thing of the kind in this island.

Roslin, in the shire of Edinburgh, is famous for a stately and magnificent chapel, one of the most curious pieces of architecture in Europe, there not being two cuts of one sort in the whole structure. It is a Gothic building, founded in the year 1440, by William St. Clair, prince of Orkney and duke of Holderness. This edifice is surrounded with buttresses and niches, each of which is adorned with

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with statues as big as the life. The windows are very magnificent: but the most curious part of the building is the vault of the choir, and a pillar distinguished by the name of the Prince's pillar.

The cathedral church in the city of Dublin in Ireland is a fine old building; and its lofty steeple, arched roof, and stone pavement, are much admired as curious pieces of workmanship.



ROYAL PALACES.

AMONGST the royal palaces of this island, Windsor Castle, in Berkshire, deservedly claims the pre-eminence; not only from its structure, but from the beauty of its situation, with which William the Conqueror was so struck, that he purchased the place from the Monks of Westminster Abbey, and here built himself a hunting seat. King Henry the First repaired and fortified that building; and Edward the Third, who was born there, built the Castle, nearly as it now stands, new from the ground, and fortified it with walls, ditches, and a rampart; and almost every succeeding Prince have taken a pleasure in contributing to the grandeur of this place. The architect employed by Edward the Third in building Windsor Castle was William of Wickham, bishop of

Winchester, after whom one of the towers is still called Winchester tower.

Windsor Castle is about a mile in circumference, and consists of two square courts, one to the east and the other to the west, with a circular tower between them. The eastern square, called the Higher Ward, is properly the royal palace; and in the middle of this square is a fine Equestrian statue of King Charles the Second, who took great pleasure in this place, adorned it with curious paintings, and other ornaments, and furnished the castle with a magazine of arms. On the outside of this square there is a terrace built by Queen Elizabeth, said to be the finest in the world: it is faced with free stone, like the ramparts of a fortified place, covered with fine gravel, and so well furnished with drains, that it is always dry even after the greatest rains: to the north, where it is broadest, it is washed by the Thames; and the prospect from the apartments over it includes London one way, and Oxford the other. The apartments in the eastern square are all spacious and elegant, richly adorned with sculptures and paintings, particularly a hall, called St. George's hall, where the sovereign of the order of the garter used to feast the knights companions every St. George's day.

The tower, which is the residence of the constable, or governor, is built in the manner of an amphitheatre, and is very lofty and magnificent.

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The western square, called the Lower Ward, is of the same breadth with that to the east, and is considerably longer: on the north side is the chapel of the order of the garter, dedicated to St. George. It was built by King Henry the Fourth, and is one of the most beautiful pieces of antient workmanship in England. In this chapel the knights are installed, and in the choir, each of them has a seat or stall, with the banner of his arms fixed over it. Here is also a throne for the sovereign, and stalls for the poor knights, who live in a sort of hospital, or college, on the south side of the square.

To what has been said of this beautiful palace, it may be added, that, though it wants a garden, its two parks, and its forest, abundantly supply that deficiency; one of the parks, called the Little Park, is above three miles round; the other is about 14 miles; and the forest between thirty and forty.

The royal palace of Hampton Court, about twelve miles from London, is a very magnificent building: it is situated between two parks, which, with its gardens, are about five miles in circumference, and are watered on three sides by the river Thames, so that a more beautiful situation can scarce be conceived. This palace was originally built by Cardinal Wolsey, who furnished it in the most sumptuous and costly manner possible. The chambers were adorned with rich hangings, containing 280 silk beds,

for the reception of strangers only, and the palace abounded with gold and silver plate: but it raised so much envy against the Cardinal, that he was obliged to resign it to king Henry the Eighth, who greatly enlarged it. King Charles the First delighted much in this place; and king William and queen Mary made still greater additions to it, and improved the gardens not only with walks, and a great variety of bowers, but with green-houses, hot-houses, and basons of water.

This palace now consists of two large courts, besides the bas court for officers and servants. On one side of the outward court is a chapel, built by queen Anne; and on the other side is a portico, supported by Doric pillars, that leads to the great stairs, which are finely painted. The inner court was built by king William, who furnished the apartments in a fine taste. In the great gallery hung till very lately, the five famous cartoons of Raphael Urbin, brought by king William into England, for which Louis the Fourteenth of France, it is said, offered 100,000 louis d'ors; but they are valued at 400,000 l. sterling: they are now placed in the queen's palace.

Kensington palace, about two miles from London, was originally the seat of chancellor Finch, afterwards earl of Nottingham, from whom it was purchased by the late king William, who greatly improved it, converted it to a royal palace, and made a road to it through
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St. James's and Hyde parks, with lamp-posts, erected at equal distances, on each side. The building is irregular, but the royal apartments are noble. From the bas court the entrance is through a large portico, into a stone gallery leading to the great stair-case, which is a very fine one, consisting of several flights of black marble steps, adorned with iron balusters finely wrought.

The gardens belonging to this palace are three miles in compass, and are kept in good order. They were first enlarged by queen Mary, consort to king William, and greatly improved by her sister, queen Anne; but principally by the late queen Caroline, consort to king George the Second, who added greatly to their extent; and brought into them, from Hyde park, a river, called the Serpentine river.

St. James's palace is still the winter residence of the court; it stands on the site of an hospital dedicated to St. James, and founded by the citizens of London, before the conquest, for fourteen leprous maids: from this hospital the palace, which was built by king Henry the Eighth, soon after the dissolution of religious houses, derived its name. It is an irregular brick building, of a mean appearance on the outside; but contains many beautiful and magnificent apartments.

In the front, is little more than an old gate-house, through which there is an entrance into a square court, with a piazza on the west side of it, leading to the grand stair-case: beyond this court there are two others, which have not much of the air of a royal palace. The windows, however, look into a pleasant garden, and command a view of St. James's park. This place, when the palace was built, consisted of an uncultivated, swampy piece of ground, which the king enclosed, and converted into a park, called from the palace St. James's park: he also laid it out into walks, and collected the water into one body: it was afterwards much enlarged and improved by Charles the Second, who planted it with lime trees, and formed a beautiful vista, near half a mile in length, called the Mall, from its having been adapted to a play at bowls so called. He also formed the water into a canal of 100 feet broad, and 2800 feet long. This park, which is near a mile and an half in circumference, and surrounded with magnificent structures, is constantly open, and used as a thoroughfare by all sorts of people. It enjoys a fine situation, is laid out with a very agreeable air of negligence, and affords many pleasant walks.

On the east side of St. James's park, and on the bank of the Thames, was a royal palace, called Whitehall, originally built by Hubert de Burgh, earl of Kent, in the thirteenth century. It afterwards came to the archbishops of York, whence it was called York place, and continued
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to be the city residence of the archbishops, till it was purchased by king Henry the Eighth of cardinal Wolsey, in 1530; then it became the place of residence for the court, and continued so till the year 1697, when, by an accidental fire, it was all burnt down, except a part called the Banqueting-house, which had been added to this palace by king James the First, according to a design of Inigo Jones. The Banqueting-house is a beautiful and magnificent structure, built of hewn stone, adorned with an upper and a lower range of pillars, of the Doric and Composite orders: the capitals are enriched with fruit and foliage, and between the columns are the windows: the roof is covered with lead, and surrounded with a balustrade. This house chiefly consists of one room, of an oblong form, forty feet high, and a proportionable length and breadth: the ceiling is painted by the celebrated Rubens. It is now used only as a chapel-royal, and the rest of the house serves for state-offices. Upon the burning of this palace, the court removed to St. James's.

On the west side of St. James's park, facing Whitehall, the Mall, and the grand canal, stands the queen's palace, which was originally known by the name of Arlington house; but being purchased by the late duke of Buckingham's father, who rebuilt it from the ground, with brick and stone, it was called Buckingham house, till the year 1762, when his present Majesty bought it, and then it began to be called the Queen's palace, from the
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particular pleasure her majesty expressed in the retirement of this house. It is now thoroughly repaired in an elegant taste, and is in every respect a fine building; it not only commands a prospect of St. James's park in front, but behind it has a park lately much enlarged, and a canal belonging to itself, together with a good garden, and a fine terrace, from whence, as well as from the apartments, there is a prospect of the adjacent country. It has a spacious court-yard, inclosed with iron rails, fronting St. James's park, with offices on each side, separated from the mansion-house by two wings of bending piazzas, and arched galleries elevated on pillars of the Tuscan, Doric, and Ionic orders; and each front of the house has two ranges of pilasters of the Corinthian and Tuscan orders.

The royal palace, called Somersset-house, was built by the duke of Somersset, uncle to king Edward the Sixth, upon whose attainder it fell to the crown; and Anne of Denmark, queen to king James the First, kept her court here. It was the residence of queen Catharine, dowager of king Charles the Second, and was settled on the late queen Caroline, in case she had survived his late majesty. This palace consists of several courts, and has a garden behind, situated on the bank of the Thames. The front towards the Strand is adorned with columns and entablature of the Doric order. The first court is a handsome quadrangle, built on all sides with free-stone. On the south is a piazza before the
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great hall, or guard-room: beyond this are other courts, which lie on a descent towards the Thames; and on the side next the river, king Charles the Second added a magnificent structure of free-stone, with a noble piazza built by Inigo Jones. This new building contains the royal apartments, which command a beautiful prospect of the river, and the country beyond it. The garden was adorned with statues, shady walks, and a bowling-green; but as none of the royal family have resided here since queen Catharine, several of the officers of the court and its dependants, are permitted to lodge in it; whence the apartments are neglected, and the garden ruined. Some of the apartments are occupied by the royal academy of painting and sculpture.

The royal palace of Holy-Rood, at Edinburgh, derives its name from its situation on the site of an abbey of Augustine monks, called Holy-Rood abbey, founded by king David the First, of Scotland; but consumed by fire, all but the abbey church, in which several of the kings and queens of Scotland lie interred, and which, though in a ruinous condition, is still standing.

This palace was originally built by king James the Fifth, and rebuilt by Charles the Second. It is a magnificent stone edifice, of a square form, adorned with excellent carvings, and supported by pillars of the different orders of architecture. It consists of four courts; but
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the first is as large as the other three put together; it has four considerable entries, three in the west front, and another in the east, besides several passages into the gardens. The principal entrance, which is grand and majestic, is adorned with stone pillars, and a cupola rising in form of a crown, with a balustrade round it. The front is adorned by four tall stately towers, two of which are part of the original building erected by king James the Fifth, that were left standing. The inner court is a noble building, beautified with a piazza all round of free-stone, having access to the royal apartments, which are very magnificent; and here is a long gallery furnished with pictures of all the kings of Scotland, beginning with Fergus the First king, who is supposed to have reigned 320 years before the Christian æra, down to the revolution, in the year 1688: the most eminent princes, and all those of the house of Stuart, are painted at full length. The lodgings are truly magnificent, and richly furnished. The great staircase and rooms of state in this palace, run exactly like those of St. James's palace; but the guard-room of Holy-Rood house is nearly twice as large as that of St. James's; and the state-rooms are much higher and larger.

This palace has a chapel remarkable for a prodigious high roof, with curious pillars, above which are two rows of stone galleries. In this chapel, king James the Seventh of Scotland, and Second of England, erected a superb throne for the sovereign of the order of
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the Thistle, or St. Andrew; and twelve stalls for the twelve knights companions of that order, all of oak, and carved by the most eminent artists in Europe at that time. The floor of this chapel is beautifully paved with marble; but the building is now in a declining condition, and is only used for the interment of some of the nobility of Scotland.

The duke of Hamilton is hereditary keeper of Holy-Rood palace, in which he has a sumptuous apartment. There are delightful gardens belonging to this palace; and on the south side it has a park four miles round.

Linlithgow palace, about eighteen miles from Edinburgh, is a magnificent building of hewn stone, and, of a royal palace, the least decayed in Scotland; having been repaired, or rather rebuilt, by king James the Sixth, whose sons, prince Henry and prince Charles, had apartments in it. It stands on a hill in an island towards the middle of a lake, close to the town of Linlithgow, and has an ascent of several steps in the form of an amphitheatre: it consists of two courts: the porch bears the name and arms of king James the Fifth. On the gate of the outer court are the arms of Scotland, encircled with the orders of the Garter, St. Andrew, St. Michael, and the Golden Fleece. In the inner court, which is larger than that at Hampton-court palace, there is a fine artificial fountain, adorned with several statues and water-works, supposed to have been erected by king James

the Fifth, because the arms of Scotland and France are in one escutcheon upon the fountain. At each of the four corners of this court is a tower, with fine apartments.

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PALACES OF NOBILITY.

AMONG the many noblemen's seats in this island, justly celebrated for their grandeur and magnificence, the beautiful palace of the duke of Devonshire, called Chatsworth-house, situated in the Peak of Derby, and reckoned one of the seven wonders of the Peak, may perhaps claim the first notice.

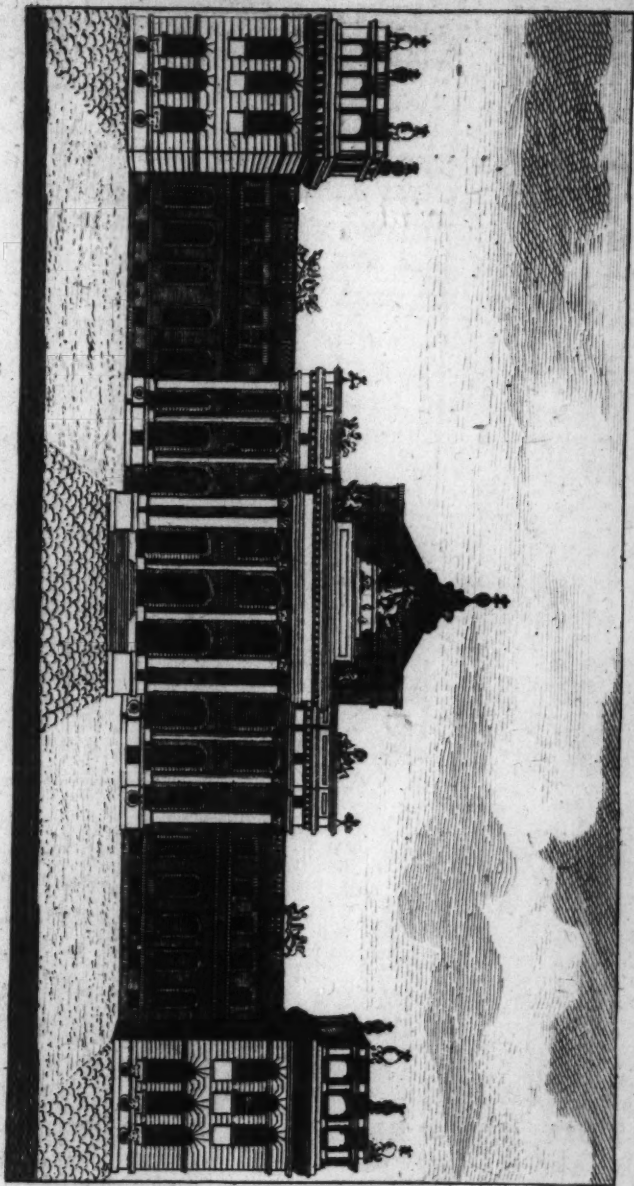
Chatsworth-house stands on the east side of the river Derwent, having that river on one side, and on the other a very lofty mountain, the acclivity of which is planted very thick with firs; the heads of these trees gradually rising as the mountain ascends, might seem to a poetical imagination, to have climbed one above another, to view and admire the beauties of the structure below. The building is a square, with a piazza of Doric columns, each of one stone, running round the inside. The front, which looks to the gardens, is a piece of regular architecture. Under the cornice of the frieze is the family motto, CAVENDO TUTUS, which, though but twelve letters, reaches the whole length of the pile: the faïces of the
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attic story are seventeen feet high, the panes are of ground glass, two feet wide, and the wood-work of the frames is doubly gilt. The hall and chapel are adorned with paintings, by Verrio, an Italian master of great eminence: the altar-end and floor of the chapel are of marble, and the seats of cedar; and the bath-room is all of marble curiously wrought. The chambers, which are large and elegant, form a magnificent gallery, at the end of which is the duke's closet, finely beautified with Indian paintings. The west front, which faces the Derwent, is adorned with a superb portal, before which there is a stone bridge over the river, with a tower upon it. There is also, in an island in the river, a building like a castle, which seen from the house, has a good effect.

In the garden there is a grove of cypress, and several statues, extremely well executed: there is also a very fine piece of water, in which there are several statues, representing Neptune, his nereids and sea-horses. On the banks is a tree of copper, representing a willow, from every leaf of which water is made to issue, by the turning of a cock, so as to form an artificial shower. Here is a cascade, at the top of which are two sea nymphs, with their urns, through which the water issues; and in the bason, at the bottom, there is an artificial rose, so contrived, that water may be made to issue from it, so as to form the figure of that flower in the air. Many more are the beauties, both of nature and art, peculiar to this place.

Blenheim-house, at Woodstock, in Oxfordshire, is a vast and magnificent pile, built at the public expence, to perpetuate the memory of the signal victory obtained by the allies, under the command of John Churchill, duke of Marlborough, in the reign of the late queen Anne, over the French and Bavarians, near the village of Blenheim, on the bank of the Danube. This noble seat, which was thence called Blenheim-house, and is perhaps the most magnificent villa in the kingdom, was, together with the manor of Woodstock, settled by the British parliament, on the duke of Marlborough and his heirs, as a grateful acknowledgment for his bravery and conduct on that occasion. Blenheim-house was designed by Sir John Vanbrugh. It is adorned with paintings and statues, and furnished with the most curious and costly moveables of every kind. Some of the apartments are hung with tapestry, representing the duke's principal victories; and there is a gallery, the cieling of which is painted by La Guerre, and the other parts by Sir James Thornhill. There is an ascent to this palace from the town of Woodstock, over a bridge of one arch, which is 190 feet wide, and cost 20 000 l. The gardens contain above an hundred acres of land, and are well laid out, having fine walks, greens, and espaliers; and the vistas are all terminated by some remarkable objects in the neighbouring country. Several additions were made to this palace, since the duke's death, by his duchess, particularly a triumphal arch at the entrance from Woodstock, and an obelisk in the
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BLENHEIM HOUSE.



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chief avenue of Woodstock park, on which is inscribed an excellent summary of the duke's victories and character.

But of all the seats belonging to the British nobility, there is none perhaps more worthy the attention of the curious, than a magnificent palace belonging to the earl of Pembroke, called Wilton-house, from its situation near Wilton, a borough town of Wiltshire. This house was begun in the reign of king Henry the Eighth, on the ruins of an abbey: part of it, called the great quadrangle, was finished in the reign of Edward the Sixth; and the rest were designed by Inigo Jones, and finished in the year 1640. The garden front, which measures 194 feet in length, is esteemed one of the best pieces of that celebrated architect; and this seat, with its gardens, furniture, and ornaments, particularly its fine paintings, antique statues, and other remains of antiquity, is justly admired as one of the principal objects of curiosity in Europe.

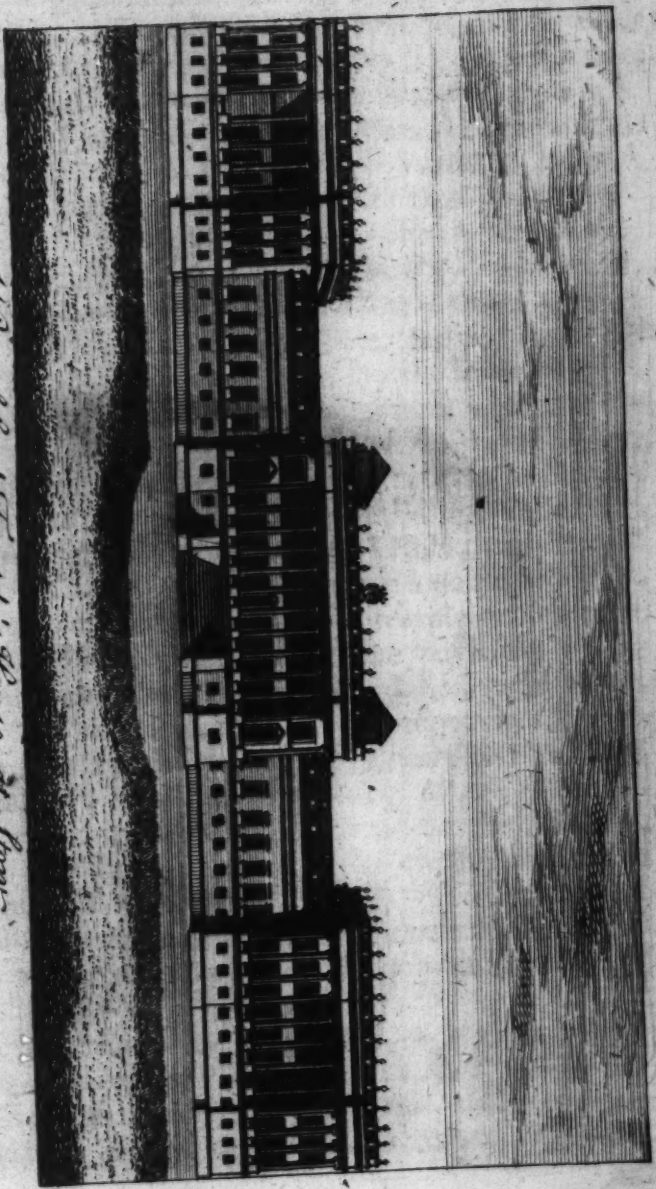
At Chiswick, a village situated on the bank of the Thames, about six miles south-west of London, is a beautiful seat, built by the late earl of Burlington, and called Burlington-house, which, for taste and elegance, is thought to surpass every thing of its kind, not only in this, but in any other country of Europe. Before the house is a neat gravelled court, with yew hedges, in pannels, and termini placed at proper distances; and in the front are two rows

of cedars, whose dark and solemn shade occasions a striking contrast with the white structure that appears between them. The ascent to the house is by a grand flight of marble steps; on one side of which is a statue of Inigo Jones, and on the other a statue of Palladio: the portico is supported by six fine fluted pillars of the Corinthian order, with the richest cornice, frieze, and architrave: the front, towards the garden, is plainer, but very bold and august: the ceilings on the inside are richly gilt and painted, and here are many valuable paintings and other curiosities. In the garden is a serpentine river, with a bridge over it; and parallel to the course of the river are serpentine walks, adorned with statues: the garden is decorated with several elegant buildings, a magnificent obelisk, a cascade, an orangery, a terrace, slopes and vistas. Here is also a fine terrace, from which there is a prospect of the river Thames, and the neighbouring country, which greatly enlivens this beautiful scene.

But of all the gardens in Great-Britain, and perhaps in the world, none equals those at Stow, in Buckinghamshire, a seat belonging to earl Temple, and built by the late lord viscount Cobham. The entrance to Stow gardens, on the south, is between two square pavilions of the Doric order, designed by Sir John Vanbrugh, which are no sooner passed, than a surprising variety of objects are presented to the eye. In the middle of a large octagon body of water, stands an obelisk seventy feet high; and,

at

View of Lord Temple's House at Ston.



at a great distance, two rivers are observed, which, approaching the octagon, unite their streams, and fall into that spacious receptacle. On the right hand appears a Gothic temple, dedicated to Liberty, which crowns the summit of a hill; and on the left, a pyramid, sixty feet high, sacred to the memory of that great architect, Sir John Vanbrugh. The stranger now, passing by some statues admirably executed, is conducted towards the cold-bath, from whence appear three natural cascades, falling from the octagon into a large lake, by the side of which, in a thick wood, is an hermitage, and near the hermitage are fine statues of Cain and Abel, fronting a beautiful structure called the Garden of Venus. From a fine building, called the Belvidere, designed by Mr. Gibbs, and situated on the top of a mount, there is a noble prospect; and not far from this is a temple dedicated to Friendship, from whence the pavilions at the entrance, the cascades, the lakes, and many other beautiful objects, all together, form a most delightful scene. The temple of Friendship is a lofty square building of the Doric order, with three fine porticos on the sides that appear to the gardens. The cieling is adorned with historical pieces, and in the room are ten busts, representing lord Cobham and his select friends, placed upon as many pedestals.

A temple here, dedicated to antient Virtue, is a rotunda of the Doric order, designed by Mr. Kent, in which are four niches, filled with the statues of Epaminondas, Lycurgus, Socrates, and

and Homer, with proper inscriptions over each. A building, called the Saxon temple, consists of a solemn grove, where the seven Saxon deities, who presided over the several days of the week, are placed in niches round an altar, forming a scene that strikes the mind with an agreeable composure; and a brick building, dedicated to Bacchus, is on the inside decorated with paintings suitable to the character of that heathen deity.

Here are several caves, one called St. Augustine's cave, is made up of roots of trees, and moss, and has a straw couch: it stands in the middle of a natural wood, which situation, together with the novelty of the structure, constitutes an agreeable variety. Dido's cave is a stone building, which stands also in the middle of a wood; and in these gardens, a building, called the Pebble Alcove, where lord Cobham's arms are curiously done in pebbles, and displayed in their proper colours, is a beautiful recess: so also is a square building, finely painted on the inside, called the Sleeping parlour, situated in a wood, and in the center of six distinct walks. A building, called the Grotto, is a curious piece of workmanship; and so also is another, called the Shell-pavilion, which is supported by six wreathed columns; and a third, called the Chinese house, built in a pond, and painted on the outside in the Chinese taste, the inside consisting of Indian Japan.

The

The spectator, having viewed all these curiosities, and a great many more than can be mentioned here, is conducted to a part of the gardens called the Elysian Fields, where he is entertained with monuments of the British Worthies, or of those Britons whom lord Cobham thought worthy of a place in this elysium; being such as are well expressed in the following lines of Virgil, which are found here upon a square of black marble, placed under a Mercury standing in the nich of a pyramid:

*Hic manus ob patriam pugnando volnera passi;
 Quique pii vates & Phæbo digna locuti,
 Inventas aut qui vitam excoluere per artis,
 Quique sui memores alios fecere merendo.*

T R A N S L A T I O N.

Here are the hands who for their country bled;
 And bards whose pure and sacred verse is read;
 Those who, by arts invented, life improved,
 And by their merits made their mem'ries loved.

Of these gardens in general it may be observed, that nature has here been embellished with art, and art supported by consulting nature, in as perfect a taste as perhaps was ever shewn in any modern or even ancient performance of this kind. In short, here is a most delightful variety of shady woods and open lawns; some prospects terminated by a well-chosen point of view, others bounded by the horizon alone; walks that of themselves afford
 plea-

pleasure, but always terminate with something that increases that pleasure, by raising the admiration; and the pavilions, pyramids, obelisks, temples, statues, bustoes and monuments, are all nobly finished.

At Burleigh, in Northamptonshire, the earl of Exeter has a most magnificent seat, called Burleigh-house. It has the appearance rather of a town than a house: its towers and pinnacles look like those of churches; and a large spire, covered with lead, rises like that of a cathedral over the clock in the center: there is an uninterrupted prospect from it for near thirty miles, over Stamford into the fens of Lincolnshire. In the great hall there is a fine portrait of one of the earls of Exeter, done in Italy; and here is so excellent a painting of Seneca bleeding to death, that it is said the late French king offered 6000 pistoles for it. There are also several other very fine paintings in this house by the celebrated Verrio.

At Althorp, about four miles from Northampton, there is a noble seat, built by Robert, earl of Sunderland, in the middle of a charming park. This house is particularly remarkable for a magnificent gallery, furnished with curious paintings by the best hands, and for a noble piece of water, on which is a fine Venetian gondola.

At Dalkeith, about five miles from Edinburgh, is a noble palace, built by the late duchess

chefs of Buccleugh, on the scite of an old castle, which belonged to the earl of Morton, regent of Scotland during the minority of James the Sixth. This palace, which is the finest and largest new house in Scotland, is said to be the very model of the late king William's palace at Loo, in Guelderland. It is built of stone, and stands on a rising ground on the bank of the river Northesk, from whence it overlooks a large park, beautified with water-works and a canal. It consists of a front, adorned with columns of the Corinthian order, and a double wing at each end: there is a spacious court between the palace and the park, surrounded with iron balustrades between free-stone pillars. The grand stair-case is supported by pillars of marble, and the steps are curiously inlaid with walnut-tree. At the top of the stair-case is a magnificent room, adorned with fine paintings by the best masters.

At Newbottle, about one mile distant from Dalkeith, is a noble seat belonging to the marquis of Lothian. Here is one of the best collection of paintings, statues and busts, in Scotland: the situation of this house is delightful, and the gardens are beautifully laid out.

At Hamilton, in Lanerkshire, is a magnificent palace belonging to the duke of Hamilton, situated upon the bank of the river Avon, in a rich, beautiful plain, and built of white free-stone, which looks like marble. The furniture of this palace is answerable to its magnificence, being adorned with fine paintings by
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the most eminent masters. It has a romantic garden, with seven hanging terrace walks down to the river side; and a park seven miles in circumference, well planted with oaks, firs, pines, &c. stocked with deer and buffaloes, and watered by the river Avon. Behind the garden is a smaller park, well planted and watered.

At Alloway, in Clackmannanshire, in North Britain, is a seat which belonged to the late earl of Mar, called Alloway-house, with a plantation round it, esteemed the finest and largest in Britain, not even excepting those of Hampton-Court or Kensington: the gardens contain forty-two acres of ground, and the wood 150 acres. The entrance to this seat, from the town of Alloway on the west, is by a magnificent stone gate, through a spacious avenue, which leads to an area fronting the house; in the middle of this area is a fine statue of a gladiator; and on the south side of it is a large garden, with a beautiful terrace and bowling-green, planted with tall evergreens. On the south side of the house is a spacious parterre, elegantly adorned with statues and vases; and from thence to a river, called the Firth, runs a fine avenue, from which, and from the parterre, there are thirty-two different vistas, each terminating on some remarkable seat or mountain at several miles distance; and between each vista are wildernesses and grottos. In the middle of this long terrace is a beautiful bason of water; in the middle of the bason are the statues of Cain and Abel; and at the end next the river is a pair of pyramidical gates,

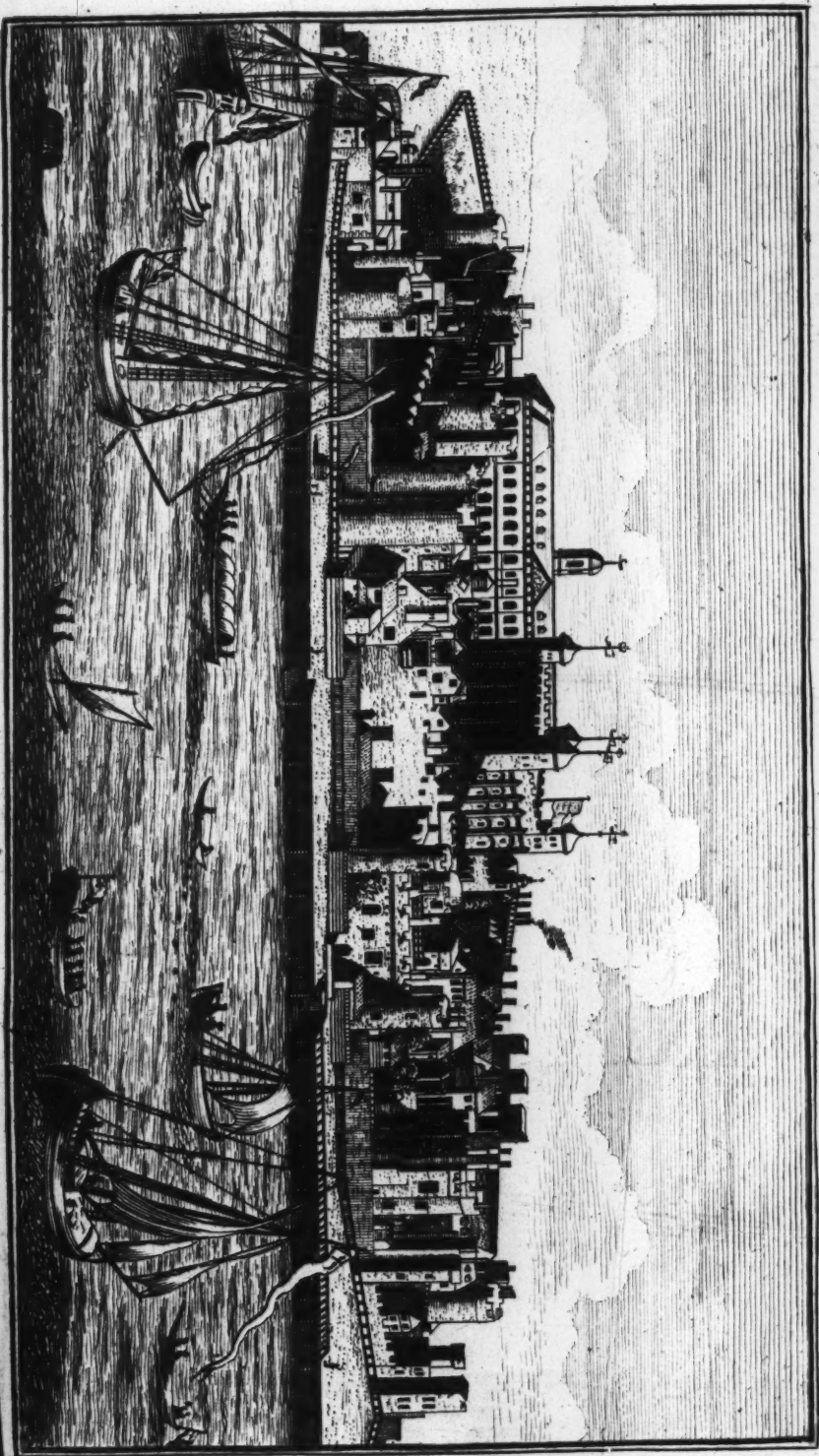
gates. On the east side of the house is a very large avenue through the wood. The late earl of Mar having taken up arms against the government, in the year 1715, this fine seat, together with the rest of his estates, became forfeited to the crown.

At Drumlanerk, in the county of Dumfries, is a noble, large palace, belonging to the duke of Queensbury. It is a square building of freestone, with twenty-eight turrets, grand avenues, gardens, and terrace walks, besides a stately stone bridge over a river called the Nith, on the bank of which, on a rock, this house is situated, in the middle of a wild, romantic country, surrounded with mountains. It has hanging gardens cut out of the rock down to the river, with water-works and grottos; here is also a vast plantation of oaks, six miles in length.

Gordon Castle, in the shire of Bamff, a seat belonging to the duke of Gordon, is the noblest palace in the North of Scotland, and one of the largest in all North-Britain: the apartments are lofty, spacious, and well furnished; and here are fine gardens, and a large park.

FORTIFIED CASTLES, *or* CITADELS.

OF the several fortresses in Great-Britain, the most remarkable is the Tower of London, situated on the east side of that city, near the bank of the river Thames. It was antiently a royal palace, and consisted originally of no more than what is now called the White Tower, which is commonly believed to have been built by Julius Cæsar: but there is very good evidence of its having been first marked out by William the Conqueror, in the year 1076, and completed by his son, William Rufus, who, in 1098, surrounded it with walls, and a broad and deep ditch, which is in some places 120 feet wide. Several succeeding princes made additions to it; and king Edward the Third built the church. In the year 1638, the White Tower was rebuilt; and since the restoration of king Charles the Second, it has been thoroughly repaired, and a great number of additional buildings erected. At present, besides the White Tower, here are the offices of ordnance, of the mint, of the keepers of the records, the jewel-office, the Spanish armoury, the horse armoury, the new, or small armoury, barracks for the soldiers, handsome houses for the chief officers residing in the Tower, and other persons; so that the Tower of London has at present more the appearance of a town than a fortress. On the Tower wharf, which parts it from the river,



The Tower.

is a line of about sixty pieces of cannon, which are fired upon state holidays. On this side of the Tower, the ditch is narrow, and over it is a draw-bridge: under the Tower wall, on the same side, is a water-gate, commonly called Traitors gate, it having been customary to convey traitors and other state prisoners through it by water, to and from the Tower.

Parallel to the wharf, upon the walls, is a platform seventy yards in length, call d the ladies line, from its being much frequented, in summer evenings, by ladies, who walk under the shade of a row of lofty trees, whence there is a fine prospect of the shipping and the river Thames. From this line there is a walk round the Tower walls, on which are three batteries, distinguished by the names of the Devil's battery, the stone battery, and the wooden battery, each of which is mounted with several pieces of brass cannon.

The principal entrance to the Tower is on the west side, by two gates, one within the other, both large enough to admit coaches and heavy carriages, and parted by a strong stone bridge, built over the ditch.

The principal officers of the Tower are a constable, a lieutenant, and a deputy-lieutenant.

Within the outer gate, is the Lion tower, in which is a fine collection of wild beasts, consist-

ing of lions and lionesses, leopards, tygers, apes, jackals, and other strange animals, together with a great variety of birds, among which are the golden eagle, the horned owl, and many others: these animals are all regularly fed with proper food, and attended with all possible care.

The mint comprehends one third of what is called the Tower, and contains houses for all the officers belonging to the coinage.

In the first story of the White Tower, is an armoury for the sea service, containing various sorts of arms, curiously laid up, for above ten thousand seamen; and the upper stories are full of arms, and other warlike instruments, as spades, shovels, pick-axes, and chevaux-de-frize.

Near the south-west angle of the White Tower, is the Spanish armoury, being the depository of the spoils of the Spanish armada, fitted out by Philip the Second of Spain to invade England, in the reign of queen Elizabeth. The trophies preserved here of this memorable victory are, a Spanish battle-ax, with a pistol in the handle, and a match-lock; the Spanish general's halbert, covered with velvet; the nails are double gilt, and on the top is the pope's head, curiously engraven. An engine, called the Spanish morning star, from its figure, which is that of a star: of this kind of engine there were many thousands on board, all with poison-
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ed points, designed to strike at the English, in case they ventured to board the Spanish fleet. Thumb-screws, of which there were several chests full on board: these, it is thought, were intended to extort a confession from the English, where their money was hid. A Spanish poll-ax, used in boarding of ships. Spanish halberts or spears, some of which are curiously engraved, and inlaid with gold. Spanish spadas, or long-swords, poisoned at the points. Spanish cravats, consisting of engines of torture, made of iron, and put on board to lock the feet, arms, and heads together, of such as the Spaniards called English heretics. Bilboes, being instruments also made of iron, for yoking the English prisoners two and two. The banner, with a crucifix on it, which was to have been carried before the Spanish general. An uncommon piece of arms, consisting of a pistol in a shield, so contrived, as that the pistol might be fired, and the body covered at the same time: it is to be fired by a match lock, and the sight of the enemy taken through a little grate in the shield, which is pistol proof. The Spanish rançeur, made in different forms, and intended either to kill the men on horseback, or to pull them off their horses; and on one of them is a piece of silver coin, which the Spaniards intended to have made current in England. On this coin are three heads, supposed to be those of the Pope, Philip the Second, and queen Mary. The Spanish officers lances, finely engraved and gilt. The common soldiers pikes, eighteen

feet in length, pointed with long sharp spikes, and shod with iron. The Spanish general's shield, which was to have been carried before him as an ensign of honour; upon which are depicted, in most curious workmanship, the labours of Hercules, with the following inscription: ADULTERIO DEIANIRA CONSPURCANS OCCIDITVR CACVS AB HERCVL. OPPRIMITVR 1379.

Other curiosities deposited here are those following: Danish and Saxon clubs, a sort of weapons which the Danes and Saxons are said to have used in their conquests of England, things of perhaps the greatest antiquity in the Tower. An instrument, called king Henry the Eighth's walking-staff, with three match-lock pistols in it, and coverings to keep the charges dry: with this instrument, it is said, the king sometimes walked round the city, to see that the constables did their duty. A large wooden cannon, called Policy, because, as is said, when king Henry the Eighth besieged Bulloign, the roads being impassable for heavy cannon, he caused a number of these wooden ones to be made, and mounted on proper batteries, before the town, as if real cannon, which so terrified the French commandant, that he gave up the place without firing a shot. The ax with which queen Anne Bullen, the mother of queen Elizabeth, was beheaded, the 19th of May, 1536; and with which the earl of Essex, the favourite of queen Elizabeth, afterwards suffered.

A small train of ten pieces of very small cannon, neatly mounted on proper carriages, being a present from the foundery of London to king Charles the First, when a child, to assist him in learning the art of gunnery. Weapons made with the blades of scythes, fixed strait to the ends of poles, and taken from the duke of Monmouth's party at the battle of Sedgemoor, in the reign of James the Second. The partizans that were carried at the funeral of king William the Third. The perfect model of an admirable machine, the design of which was brought from Italy, by Sir Thomas Lombe, at the hazard of his life. It is a mill for the manufacture of silk, and was first erected in the year 1734, by Sir Thomas, at his own expence, in an island of the river Derwent, facing the town of Derby. This mill works three capital engines for making orgazine, or thrown silk, which was before made in Italy only, and thence imported into England for ready money. The mill has 26,586 wheels, and 97,746 movements, which are all worked by one water-wheel, that turns round three times in a minute. By every turn of the water-wheel the machine twists 73,726 yards of silk thread; so that in twenty-four hours it will twist 318,496,320 yards. Of this complicated machine, any single wheel or movement may be stopped, without impeding the rest; and the whole is governed by one regulator. The house which contains this mill is five or six stories high, and near a quarter of a mile in length; yet the whole of it is at once equally warmed by a fire-engine, contrived for
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that purpose. The machine was thought of such importance by the legislature, that, on the expiration of the patent which Sir Thomas had obtained for the sole use of it, during fourteen years, the parliament granted him 14,000*l.* as a farther recompence for the very great hazard he ran, and the expence he had incurred, by introducing and erecting it, on condition that he should suffer a perfect model of it to be taken, in order to secure and perpetuate the invention, which model is preserved in the tower.

Northward of the White Tower is a noble building, called the grand store-house, extending 245 feet in length, and sixty in breadth. It was begun by King James the Second, and finished by King William, who erected that magnificent room called the new or small armoury, to which there is a passage by a folding door, adjoining to the east end of the Tower chapel, leading to a grand stair case of fifty easy steps. On the left side of the uppermost landing is a workshop, in which are constantly employed about fourteen furbishers in cleaning, repairing, and new placing the arms contained in this place; which are so artfully disposed, that, at one view, may be seen arms for near 80,000 men, all bright and fit for service at a moment's warning; and besides those exposed to view, there were before the late war sixteen chests shut up, each chest containing 1200 muskets. Of the disposition of these arms no adequate idea can be formed by description; and there are a thousand peculiarities in the disposition

tion of so vast a variety of arms, which no description can reach.

Upon the ground floor, under the small armoury, is a large room of equal dimensions with that, supported by twenty pillars, all hung round with implements of war. This room, which contains the royal train of artillery, is twenty-four feet high, and is full of the most dreadful engines of destruction; besides which, there were in the store room, before the late war, a vast number of new brass cannon, together with sponges, ladles, rammers, hand-spikes, wadhooks, &c. with which the walls were lined round: under the ceiling there hang on poles upwards of 4000 harness for horses, besides men's harness, drag ropes, &c. trophies of standards, colours, &c. taken from the enemy.

Eastward of the White Tower, is the horse armoury, consisting of a plain brick building, in which are several curiosities.

Before the room door is the figure of a grenadier in his accoutrements, as if upon duty, with his piece rested upon his arm, a figure admirably well done. Within the room, on the left hand as you enter are figures, as big as life, of horse and foot, supposed to be drawn up in military order, to attend a line of kings on the other side of the room, shewn in the following order. King George the First, in a complete suit of armour, seated, with a truncheon

cheon in his hand, on a white horse, richly caparisoned, having a fine Turkey bridle gilt, with a globe, crescent, and star; velvet furniture, laced with gold, and gold trappings. King William the Third, dressed in the suit of armour worn by Edward the Black Prince, at the battle of Cressy. He is mounted on a sorrel horse, whose furniture is green velvet, embroidered with silver, and holds in his right hand a flaming sword. King Charles the Second, dressed in armour, with a truncheon in his hand, seated on a fine horse, richly caparisoned, with crimson velvet, laced with gold. King Charles the First, in a rich suit of gilt armour, curiously wrought, presented to him by the city of London, when he was prince of Wales. At the funeral procession of John Duke of Marlborough, this suit of armour was laid on the coffin, on which occasion a collar of SS was added to it, which is still round it. James the first on horse back, dressed in a complete suit of figured armour, with a truncheon in his right hand. King Edward the Sixth, dressed in a curious suit of steel armour, whereon are depicted, in different compartments, a great variety of scripture histories. He sits like the rest on horse back, with a truncheon in his hand. King Henry the Eighth in his own armour, which is of polished steel, with the foliages gilt, or inlaid with gold: he holds a sword in his right hand. King Henry the Seventh, who also holds a sword, and is seated on horse back in a complete suit of armour, finely wrought, and washed with silver. King Edward the Fifth, who, with his brother Richard,

Richard, was smothered in the Tower, by order of their uncle and guardian Richard the Third; and having been proclaimed king, but never crowned, a crown is hung over his head. He holds a lance in his right hand, and is dressed in a rich suit of armour. King Edward the Fourth, in a bright suit of armour, studded, with a drawn sword in his hand. King Henry the Sixth, King Henry the Fifth, and King Henry the Fourth. King Edward the Third, with a venerable beard, in a suit of plain bright armour, with two crowns on his sword, alluding to his having been crowned King both of England and France. King Edward the First, dressed in a very curious suit of gilt armour, and in shoes of mail, with a battle ax in his hand. And William the Conqueror, the first in the line, though the last shown, in a suit of plain armour.

Other curiosities in this room are those following. A large tilting lance of Charles Brandon, Duke of Suffolk, King Henry the Eighth's general in France. A complete suit of tilting armour, such as the kings, nobility, and gentlemen at arms used to wear, with the tilting lance, the rest for the lance and grand guard. A complete suit of armour, made for King Henry the Eighth, when he was but eighteen years of age, rough from the hammer. It is at least six feet high, and the joints in the hands, arms and thighs, knees and feet, play like the joints of a rattle-snake, and are moved with all the facility imaginable. A small suit
of

of armour made for King Charles the Second, when he was Prince of Wales, and about seven or eight years of age, with a piece of armour for his horse's head; the whole most curiously wrought, and inlaid with silver. The armour of Lord Courcy, who, having vanquished a French champion, had the privilege granted to him and his successors, of wearing their hats in the King's presence. Real coats of mail, called Brigandine jackets, consisting of small bits of steel, so artfully quilted one over another, as to resist the point of a sword, and perhaps a musket ball; and yet so flexible that the wearer may bend his body any way, as well as in an ordinary suit of clothes. An Indian suit of armour, sent by the Great Mogul as a present to King Charles the Second. This is reckoned a great curiosity, being made of iron quills, each about two inches long, finely japanned, and ranged in rows, one row easily slipping over another; these are bound very strong together with silk twist, and are used in that country as a defence against darts and arrows. A neat little suit of armour, worn by a carved figure, representing Richard Duke of York, the youngest son of King Edward the Fourth, who with his brother Edward the Fifth, was smothered in the Tower. The armour of John of Gaunt, Duke of Lancaster, the son of Edward the Third. The armour here shewn is seven feet high, and the sword and lance of an enormous size. And a droll figure of one William Somers, said to have been King Henry the Eighth's jester.

Over the door of the armoury, on the inside, is a target, on which are engraved, by a masterly hand, the figures of Justice, Fortune, and Fortitude; and round the room, the walls are every where lined with various uncommon pieces of gold armour for horse's heads and breasts, targets, and many pieces that now want a name.

About twenty yards east of the grand store house, or new armory, is the jewel office, being a dark, strong, stone room, in which the jewels of the crown are deposited. The jewels shewn at this time are those following.

The imperial crown, with which, it is pretended, all the kings of England have been crowned ever since Edward the Confessor in 1042. It is of gold, enriched with diamonds, rubies, emeralds, sapphires and pearls. The cap within is of purple velvet, lined with white taffety, turned up with three rows of ermine. The golden orb or globe put into the King's right hand, before he is crowned; and borne in his left, with the sceptre in his right, upon his return to Westminster-hall after he is crowned at Westminster-abbey.

The globe is about six inches in diameter, edged with pearl, and enriched with precious stones. On the top is an amethyst of a violet colour, near an inch and a half high, set with a rich cross of gold, adorned with diamonds,

pearls, and other jewels; the whole height of the ball is eleven inches.

The golden sceptre, with its cross set upon a large amethyst of great value, garnished round with table diamonds. The top rises into a fleur-de-lis of six leaves, all enriched with precious stones, from whence issues a mound, or ball, made of the amethyst already mentioned. The cross is quite covered with precious stones. The sceptre with the dove, the emblem of peace, perched on the top of a small Jerusalem cross, finely ornamented with table diamonds, and jewels of great value. St. Edward's staff, four feet seven inches and a half in length, and three inches, three quarters in circumference, all of beaten gold, which is carried before the King at his coronation. The rich crown of state worn by his majesty in parliament, in which is a large emerald, seven inches round, a pearl esteemed the finest in the world, and a ruby of inestimable value. The crown belonging to the Prince of Wales, which, when the prince is of age to sit in parliament. The king wears his crown on his head, while he sits upon the throne; but that of the Prince of Wales is placed before him.

The late Queen Mary's crown, globe, and sceptre, with the diadem she wore at her coronation with her consort King William. An ivory sceptre, with a dove on the top, made for King James the Second's Queen, whose garniture is gold, and the dove on the top gold, enamelled

enamelled with white. The curtana, or sword of mercy, the blade of which is thirty-two inches long, and near two broad, without a point; carried before the King at his coronation, between the two swords of justice. The golden spurs, and the armillas, being bracelets for the wrists, which, though very antique, are worn at the coronation. The ampulla, or eagle of gold, which is finely engraved, and holds the holy oil the Kings and Queens of England are anointed with; and the golden spoon that the bishops pour the oil into. The eagle and spoon are two pieces of great antiquity; the eagle, including the pedestal, is about nine inches high, and the wings expand about seven inches; the head of the eagle screws off about the middle of the neck, which is made hollow for holding the holy oil; and when the king is anointed, the oil is poured into the spoon out of the bird's bill.

A rich salt-seller of state, in the form of the square white tower; the workmanship is exquisitely fine. It is of gold, and used only on the King's table at the coronation. A noble silver font, double gilt, and elegantly wrought; in which the royal family are christened. A large silver fountain presented to King Charles the Second, by the town of Plymouth, curiously wrought.

Besides these, which are commonly shewn, there are in the jewel office all the jewels

worn by the Prince and Princesses at coronations, and a vast variety of curious old plate.

Next to the tower of London, the most celebrated fortress in Britain, is the castle of Edinburgh, which by nature and art is certainly one of the strongest in the world. It is properly a citadel, for it stands above and commands the city, being about a musket shot from the High-street: when or by whom it was built does not appear, but it is beyond doubt very antient, and is said to have been built upwards of two thousand years ago: it was erected before the city, which may therefore be supposed to have been built, either to protect, or be protected by the castle.

It stands on a rock between two lofty hills, Salisbury Craig, and Caulton Craig, which, at a distance, have the appearance of two wings, whence probably was derived the name *Castrum Alatum*, i. e. the *Winged Castle*, by which this was known to the antients; that part of Salisbury Craig directly south of the castle is a steep rock called Arthur's seat or chair, from the British Hero, King Arthur. Edinburgh castle is inaccessible on every side except that next the city, where also the rock on which it stands is considerably high, and where the entrance is defended by a round battery, half moons, one of which is 200 feet perpendicular height, ramparts, and an outwork, all well mounted with cannon, besides a wide trench, over which is a draw-bridge. In this castle is a royal palace
which

which is one uniform stately structure of hewn stone, with very magnificent apartments, in one of which king James the First of Great-Britain was born. This is the residence of the governor of the castle; and here the regalia of the antient kingdom of Scotland, and chief records of state, are said to have been kept upwards of two thousand years, as well as the national magazine of arms and ammunition. In this castle is a chapel for the use of the garrison: it is supplied with water from two wells in the rock on which it stands; and it commands a most delightful and extensive prospect.

Next to Edinburgh castle, the most remarkable fortress in this island, is Stirling castle, which is situated on a rock on the bank of the river Forth, above the town of Stirling, in the manner that the castle of Edinburgh is above that city, at the distance of 32 miles from Edinburgh.

Stirling was by the antient Britons or Scots called *Binobara*, and is supposed to be the *Vindonara* of Ptolemy. According to Tacitus, it was fortified by a wall and a fort, in the time of the Romans, and appears to be the first northern boundary of the Roman empire in Britain. Here is a bridge of hewn stone, consisting of four stately arches, over the river Forth, with an iron gate. The castle is defended with batteries well mounted with cannon, for defending the passage of the bridge, which is the most considerable pass between the north and south parts

of Scotland; is almost in the center of the country, and esteemed one of the keys of the Highlands; on account of which, in times of trouble, the chief magazine of the nation is usually transported to this place.

Stirling castle, which has a royal palace, was repaired by king James the Fifth, who greatly enlarged and beautified the royal apartments and built a noble hall, in which parliaments have been frequently held, and ambassadors entertained. Here is one apartment, consisting of six rooms of state, which are reckoned the noblest and most spacious in Europe: the wainscot and ceiling are beautifully carved. In the room of the presence-chamber are carved the heads of the kings and queens of Scotland. Over the royal apartments is the governor's lodging, consisting of twelve convenient rooms on a floor.

The fortifications of Stirling castle were greatly enlarged by queen Anne; at which time some noble turrets, that added much to the beauty and prospect of the palace, were demolished: but there is still a most beautiful and extensive prospect from Stirling castle.

As Stirling castle is esteemed one of the keys to the Highlands, Dumbarton castle is accounted the lock, which, though small in circumference, is, in the opinion of some writers, the strongest in Scotland, both by nature and art. It stands on the bank of the river Clyde, upon a forked rock, very steep on all sides except toward

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Greenwich Hospital.

wards the river. On one of these forks is a high watch tower, and, on the other, which is somewhat lower, several strong towers.

To this castle there is but one ascent, and consists of narrow steps cut out of the rock, and passable only by one person at a time. A river called the Leven, which runs here into the Clyde on the west, and the river Clyde on the south, serve it for ditches; and to the east is a morass, which is every tide under water.



HOSPITALS.

GREENWICH Hospital, in the town of Greenwich, about six miles from London, is such a spacious and sumptuous edifice, of such noble symmetry, architecture, and decorations, in such a charming situation, and so amply endowed, that there is scarce such another fabric and foundation in the whole world. It stands upon the bank of the Thames, on the spot where formerly was a palace, first erected by Humphrey, duke of Gloucester, who called it Placentia. The palace was enlarged by Henry the Seventh, and completed by Henry the Eighth, who was so delighted with the situation, that he frequently resided here: but it being afterwards neglected, king Charles the Second pulled it down, and began another, of which he lived to see the west wing magnificently finished. This wing,

wing, together with nine acres of ground belonging to it, king William, in the year 1694, appropriated for a Royal Hospital, for aged and disabled seamen, the widows and children of such of them as lost their lives in the service of the crown, and for the encouragement of navigation. The other wing was begun in the reign of king William, carried on in the reigns of queen Anne and king George the First, and finished in the reign of king George the Second.

The front to the Thames consists of two ranges of stone buildings, with the governor's house at the back part in the center. These buildings, between which is a large area, perfectly correspond with each other; and each range is terminated by a very magnificent dome. In each front to the Thames, two ranges of coupled Corinthian columns, finely wrought, support their pediments; and the same order is continued in pilasters along the building. The projection of the entablatures gives an agreeable diversity of light and shade. In the center of each part, between the ranges of Corinthian columns, is the door, which is of the Doric order, and adorned above with a tablet and pediment. Within the height of these lofty columns are two series of windows, enlightning two floors: the undermost, which are the smallest, have rustic cases crowned with pediments; while the upper series, which are larger and more lofty, are adorned with the orders, and with upright pointed pediments.

Over these is an attic story ; the entablature of the Corinthian columns and pilasters, supports a regular attic course ; the pilasters of this order rising over every column and pilaster of the Corinthian below, between which the windows are regularly disposed, and the top is crowned with a handsome balustrade.

The buildings, which are continued from these, and face the area, correspond with them, though in a finer and more elegant manner. In the center of both is a range of columns supporting a pediment, and at each corner a range of Corinthian pilasters. The front is rusticated, and there are two series of windows : the domes at the end, which are 120 feet high, are supported on coupled columns, as well as the porticos below ; and under one of these is the chapel, which is adorned on the inside with the greatest elegance and beauty. In the center of the area is fixed on a pedestal, a statue of his late majesty George the Second.

The hall of this hospital, which is very superb, was finely painted by the late Sir James Thornhill. At the upper end of it, in an alcove, are portraits of the late princess Sophia, king George the First, king George the Second, queen Caroline, the late queen of Prussia, Frederic prince of Wales, the duke of Cumberland, and his five royal sisters. On the ceiling above the alcove, are portraits of queen Anne and prince George of Denmark ; and on the ceiling of the hall are portraits of king William and
queen

queen Mary, with several fine emblematical figures.

Behind the hospital is a noble and most delightful park, enlarged, planted, and walled round by king Charles the Second: it is well stocked with deer, and has a most agreeable prospect both of the city of London and of the river Thames: on the top of a steep hill, in this park, is a royal observatory, erected by king Charles the Second, furnished with all sorts of mathematical instruments for astronomical observations, and a deep well for observing the stars in the day-time, under the direction of an astronomer royal.

King William gave 2000*l.* a year towards finishing the buildings: the several benefactions to this noble charity amount to 58,209*l.* and in the year 1732, the late earl of Derwentwater's forfeited estate, amounting to near 6000*l.* a year, was given to it by parliament: for its better support, every seaman in the royal navy, and in the service of the merchants, pays 6*d.* a month. In the year 1737, a market was appointed in the town of Greenwich, the direction of which is in the governors of the Royal Hospital, to which the profits that arise from it are to be appropriated; and, as occasion requires, the parliament grant money for its support.

In the year 1785, was the first admission of one hundred disabled seamen into this hospital;

tal; but the number now is between two and three thousand men, and one hundred boys.

As Greenwich hospital was erected for the support of aged and disabled seamen, there is another Royal Hospital at Chelsea, a very large and populous village, pleasantly situated on the banks of the Thames, about two miles south-west of London, for the invalids in the land-service, called Chelsea Hospital, the Royal Hospital, and sometimes Chelsea College. This hospital was originally a college, founded by Dr. Sutcliff, dean of Exeter, in the reign of king James the First, for the study of polemic divinity, and was endowed, in order to support a provost and fellows, for the instruction of youth in that branch of learning.

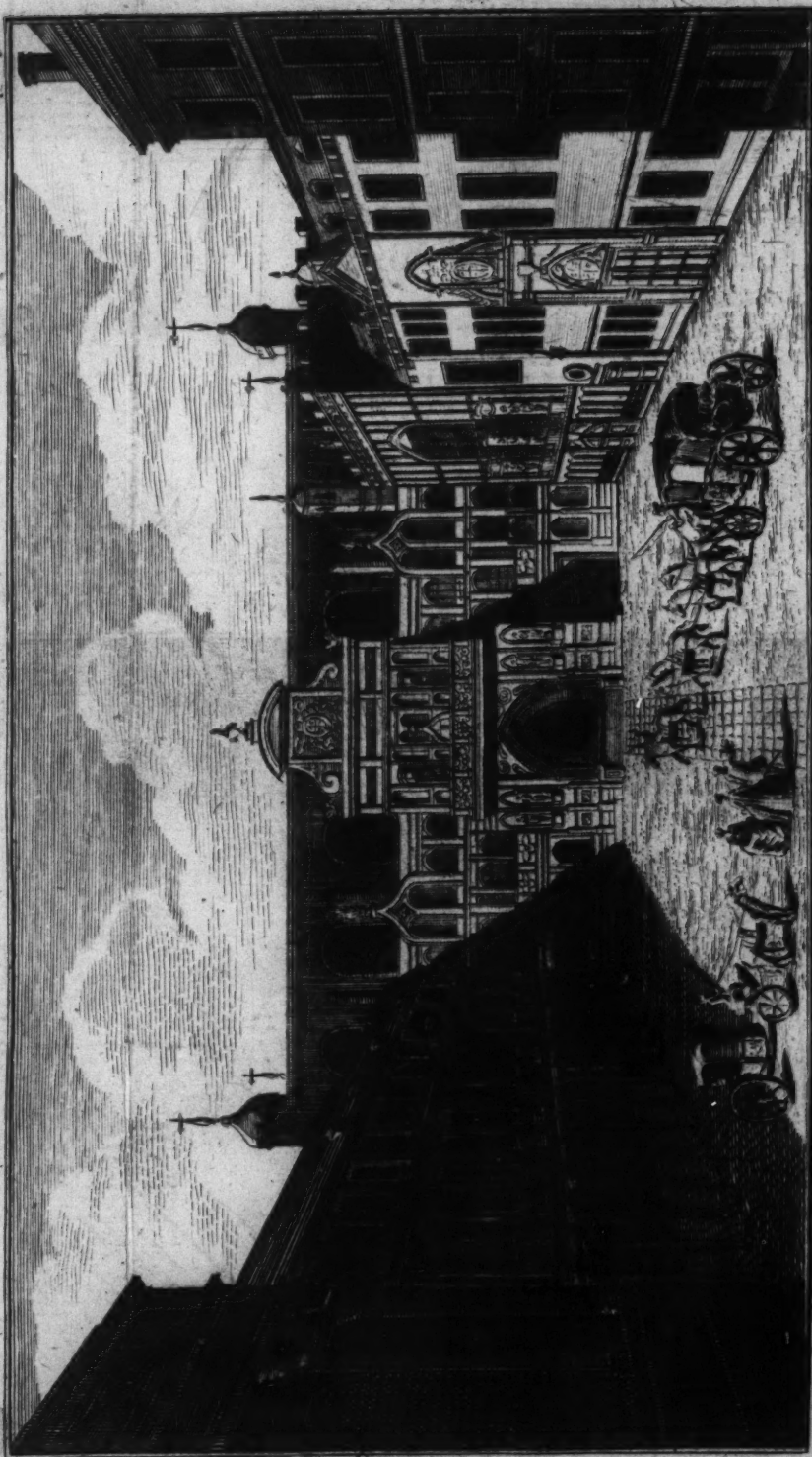
The king, who laid the first stone of the buildings, gave many of the materials, and promoted the work by a large sum of money; and the clergy were very liberal on the same occasion; but the sum settled upon the foundation by Dr. Sutcliff, being far unequal to the end proposed, the rest was left to private contributions; and these coming in slowly, the work was suspended, and soon fell to ruin. At length, the ground on which the old college was erected coming to the crown, king Charles the Second began to erect the present hospital, which was carried on by James the Second, and completed by William and Mary. It was built by Sir Christopher Wren, is a most magnificent structure,

ture, and one of the best foundations of the kind in the world.

The principal building consists of a large quadrangle, open to the Thames. The front, in the middle of which is the gateway leading through it, contains a chapel on one side, a hall on the other, and a noble pavilion between them, with a fine gallery facing the river, supported by stone pillars. The two sides or wings, which are four stories high, are divided into wards or galleries, two in every story, containing each twenty-six distinct apartments. At each of the four corners is a fine pavilion, one for the governor's lodging and the council-chamber, and the other three are appropriated for offices. In the middle of this area is placed, on a marble pedestal, a very fine statue of king Charles the Second in brass.

Besides the principal building, there are two other large squares, which consist of apartments for the officers and servants of the house, for old maimed officers of horse and foot, an infirmary for the sick, and other conveniences.

This building is particularly remarkable for its great regularity, and proper subordination of parts, together with such a disposition of them, as is best suited to the purposes of the charity, the reception of a great number, and the providing them with every thing that can contribute to their convenience and pleasure. There is a neatness and elegance in the whole
of



Guild Hall.

of the building, which is composed of brick and stone; the expence in erecting it is computed at 150,000 l. and the extent of the ground is above forty acres.

The number of ordinary pensioners in this hospital is about five hundred; but the extraordinary, or our pensioners, are upwards of twelve thousand, and are allowed 7 l. 12 s. 6 d. a year each. These great expences are supported by a poundage deducted out of the pay of the army, with one day's pay once a year from each officer and common soldier; and when there is any deficiency, it is supplied by a grant from parliament.

In and about London there are several other hospitals, which, on account of the magnificence of the structures, as well as the noble foundations, would merit a particular description in any work, but such as professes to treat of the most extraordinary objects of curiosity only.

Among the hospitals at Edinburgh, the most remarkable is a large, beautiful, and stately fabric, founded in the reign of king James the Sixth of Scotland, by Mr. George Herriot, a goldsmith, and from him called Herriot's hospital, for maintaining and educating 130 poor boys, the children of decayed merchants and tradesmen of the city, of whom some are sent to the university, with an exhibition of seven pounds a year, and the rest are put apprentices,

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and have 13l. 10s. given with them to a master.

Dr. Balcanquel, dean of Rochester, a great architect, and cotemporary with Inigo Jones, built this hospital, which exceeds every thing of the kind in Europe, and is more like a palace than an hospital. It consists of an exact square, built of free-stone, with a piazza on the inside all round. The doors and windows are adorned with too great a profusion of carved work for an hospital. Over the gate is a high tower, in which are a clock and bells; and at each corner of the building is a square tower, with little turrets covered with lead, one at each corner. In a nich over the gate, on the inside, is a statue of the founder in stone. This hospital, of which the magistrates of the city are perpetual guardians, has a flower-garden, a kitchen-garden, and an orchard, which are kept in good order.



B R I D G E S.

WESTMINSTER-bridge, built over the river Thames from the city of Westminster to the opposite shore, is universally allowed to be one of the finest in the world: it extends in length, from wharf to wharf, 1223 feet, and is 44 feet wide, a commodious foot-way being allowed for passengers on each side, of about
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seven feet broad, raised above the road allowed for carriages, and paved with broad moor-stone: the intermediate space is 30 feet wide, and is sufficient to admit three carriages and two horses to go a-breast. This bridge consists of thirteen large and two small arches, with fourteen intermediate piers. Each pier terminates with a salient right angle against the stream, both upward and downward: the two middle piers are seventeen feet wide at the springing of the arches, and contain 3000 cubic feet, or near 200 tons of solid stone; the others decrease equally on each side by one foot.

The arches of this bridge are all semicircular, and spring from about two feet above low-water mark; the center arch is 76 feet wide, and the rest decrease in width equally on each side by four feet; the free water-way under the arches is 870 feet, so that there is no sensible fall of water.

This bridge is adorned and secured on each side by a very lofty and noble balustrade. Over every pier there is a semi-octangular tower, which forms a recess in the foot-way: of these, twelve are covered with half domes, four at each end, and four in the middle; and between these in the middle are pedestals, on which it was intended to place a group of figures. The whole is lighted up by a great number of lamps, beautifully disposed, one on the top of each recess.

The foundation of this bridge is laid on a firm and solid mass of gravel, which lies at the bottom of the bed of the river, but at a much greater depth on the Surry than on the Westminster side ; and this inequality of the ground required the height of the several piers to be very different, as some have their foundations laid at five feet, and others at fourteen feet under the bed of the river. The piers are all four feet wider at their foundation than at the top ; and are founded on the bottoms of the wooden cases in which they were built. They consist all of solid blocks of Portland stone, many of which are four or five tons weight, and none less than a ton, except the closers, or smaller stones, intended for fastening the rest, one of which is placed between every four of the larger blocks.

The first stone of this bridge was laid the 29th of January, 1738-9, by the late earl of Pembroke ; the building was finished the 10th of November, 1750, and the bridge opened the 17th following. The expence of erecting it was defrayed by parliament, and amounted to 389,500 l.

London-bridge appears to have been originally built of wood, between the years 993 and 1016 ; but being burnt down in 1136, it was afterwards rebuilt of wood in 1163, under the inspection of one Peter, curate of St. Mary Cole-church, in London, a person of great reputation in those days for his skill in architecture.

ture. The expences, however, of maintaining and repairing the wooden bridge became so burdensome to the inhabitants of the city, that it was resolved to build a stone bridge a little westward of the wooden one. This building was begun in 1176, and finished in 1209. It consisted of twenty arches, was 915 feet long, 44 feet high, and 73 feet wide; but houses being built on each side, the street or interval between them was only 23 feet broad. The narrowness of this passage having occasioned the loss of many lives, from the number of carriages passing and repassing; and the straitness of the arches, and the enormous size of the sterlings, which took up one-fourth part of the water-way, and rendered the fall at low water no less than five feet, having also occasioned frequent and fatal accidents, the magistrates of London, in 1756, obtained an act of parliament for improving, widening, and enlarging the passage over and through this bridge, which granted them a toll for every carriage and horse passing over it, and for every barge or vessel with goods passing through it: but these tolls being found insufficient, were abolished by an act which passed in 1756, for explaining, amending, and rendering the former act more effectual, and for granting the city of London money for carrying on that work. In consequence of these acts of parliament, a temporary wooden bridge was built, and the houses on the old bridge were taken down. Instead of a narrow street twenty-three feet wide, there is now a passage of thirty-one feet for carriages, with a handsome raised

pavement of stone on each side, seven feet broad, for the use of foot passengers; the sides are secured and adorned by fine stone balustrades, enlightened in the night with lamps. The passage through the bridge is enlarged, by throwing the two middle arches into one, and by several other alterations and improvements.

Under the first, second, and fourth arches, from the north side of the bridge, and under the second arch from the south side, there are engines worked by the flux and reflux of the river, the water of which they raise to such a height, as to supply many parts of the city.

Black-friars bridge is built from the end of Fleet-ditch to the opposite shore; and the first stone was laid on the 30th of October, 1760. This bridge has a free passage through the arches of 750 feet. The arches are elliptical, and make a very elegant appearance. The ascent and descent to this bridge is extremely easy; the passage both for foot passengers and carriages the same with that of Westminster, and a sufficient number of glass lamps are properly disposed for rendering the passage over it in the night safe and agreeable; but none of the recesses being covered, like those on Westminster-bridge, there is no shelter in bad weather for foot passengers from one end of the bridge to the other.

Barton upon Trent, in Staffordshire, is famous for its bridge over the Trent, which, next

to Westminster-bridge, is by some persons thought to be the finest in England. It is built of squared free-stone, is about a quarter of a mile in length, and consists of thirty-seven arches.

At the town of Nottingham is a stately stone bridge over the river Trent, consisting of nineteen arches; and at Abergavenny, in Monmouthshire, is another fine stone bridge over the river Usk, consisting of fifteen arches.

At the town of Berwick is a beautiful stone bridge across the river Tweed. It consists of sixteen arches, is 900 feet long, and was built by queen Elizabeth.

At Wallingford, in Berkshire, is a stone bridge over the river Thames, which is 900 feet long, has nineteen arches, and four draw-bridges.

The town of Biddeford, in Devonshire, has a very fine bridge over the river Touridge, which was built in the fourteenth century, on twenty-four beautiful and stately Gothic arches: the foundation is still very firm, and yet it shakes at the slightest step of a horse. There are lands settled for keeping it in repair; the rents of which are received and laid out by a bridge-warden, chosen by the mayor and aldermen of the town.

At the city of Rochester is a bridge over the river Medway, which was built in the reign of king Henry the Fourth, by Sir John Cobham and Sir Robert Knowles, with the money they had raised from spoils taken in France. This bridge consists of twenty-one arches, and is reckoned the best and strongest bridge in England, next to those of Westminster and London. For keeping this bridge in repair, certain lands were annexed to it by act of parliament, in the reign of king Richard the Third, and by two other acts in the reign of queen Elizabeth. It was repaired in 1744, and adorned with iron palisadoes.

The city of York has a stone bridge of five arches over the river Ouse, the center arch of which is 81 feet wide, and 51 feet high: the bridge is so crowded with buildings, that it looks like a street.

The city of Glasgow, in North-Britain, has a noble and beautiful stone bridge over the river Clyde, consisting of eight very large arches; and upon the water of Down, in the shire of Air, is a bridge of one arch, 90 feet long, which is much wider than the celebrated Rialto at Venice.

MISCELLANEOUS BUILDINGS.

IN and about London only, are such a number of noble and magnificent buildings, that a particular description of them would fill a large work; therefore the following are selected as the most celebrated and worthy of notice.

The Royal-Exchange, which is the burse or meeting-place of the merchants of that great metropolis, is the finest and strongest fabric of the kind in Europe. This edifice was originally built of brick, in the year 1567, at the expence of Sir Thomas Gresham, a merchant of this city; and, in 1570, was, in a solemn manner, proclaimed the Royal Exchange, by herald, with sound of trumpet, at the command, and in the presence of, queen Elizabeth. That structure being destroyed by the fire of London, in 1666, it was rebuilt of Portland stone, and rustic work, in a much more magnificent manner, as it now stands, at the expence of 80,000*l*. Of this building, king Charles the Second laid the first stone in the year 1667, and it was finished in 1669. The whole is a parallelogram 203 feet in length, and 171 feet in breadth, inclosing an area 144 feet long, and 117 feet broad. This area is surrounded with piazzas, forming ambulatories for the merchants to shelter themselves from the weather: it is paved with fine pebbles, and the ambulatories with black and white marble. Upon a marble pedestal about eight feet high, in the middle of
this

this area, is a fine statue of king Charles the Second, in a Roman habit, executed by Mr. Gibbon, enclosed with iron rails, and set up at the expence of the merchant adventurers, in the year 1684.

Under the piazzas are twenty-eight niches, all vacant, except two; one in the north-west corner, in which is a statue of Sir Thomas Gresham the founder; and the other at the south-west, in which is a statue of Sir John Barnard, who had been twice lord-mayor of the city, and many years one of its representatives in parliament.

Above the arches of these piazzas is an entablature, with curious enrichments; and on the cornice, a range of pilasters with an entablature, extending round, and a compass pediment in the middle of the cornice of each of the four sides. Under that on the north, are the king's arms; on the south, those of the city, on the east, those of Sir Thomas Gresham, and under the pediment, on the west side, the arms of the company of Mercers, with their respective enrichments.

In the intercolumns are twenty four niches, nineteen of which are filled with the statues of the kings and queens of England, standing erect, dressed in their robes, and with their regalia, except the statues of king Charles the Second, king James the second, and king George the Second,

Second, which are habited like the Roman emperors.

In each of the two principal fronts of this building, on the south and north, is a piazza, and in the middle of each is an entrance into the area, under an arch, which is extremely costly and magnificent. On each side of the south entrance, in the intercolumns, is a niche, one containing a statue of king Charles the First, and the other a statue of king Charles the Second, both dressed in Roman habits, and well executed. Over the aperture on the cornice, between the two pediments, are the king's arms in relievo. On each side of this entrance is a range of windows, placed between demicolumns and pilasters of the composite order; above which runs a balustrade. The height of the building is sixty-six feet; and from the center of this side rises a lanthorn 178 feet high, on the top of which is a fane in the form of a grasshopper, of polished brass, esteemed a fine piece of workmanship; a grasshopper being the crest of Sir Thomas Gresham's arms. The north front of the Royal Exchange is adorned with pilasters of the Composite order, but has neither columns nor statues on the outside; and instead of the two compass pediments, has a triangular one.

Within the piazzas of these two fronts, are two spacious stair-cases, with iron rails, and black marble steps: these lead into a kind of gallery, which extends round the four sides of
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the building, and in which were about 200 shops, now mostly deserted.

Near the Royal-Exchange is the Mansion-house, for the residence of the Lord-Mayor of London. This is a noble edifice, erected in a place which was formerly a market for flesh and fish, called Stocks-market. The first stone of this building was laid in October, 1739, and it was finished in 1753. It is built of Portland stone, with a portico of six lofty fluted columns of the Corinthian order, in the front; and the same order is continued in pilasters, both under the pediment, and on each side. The basement story is very massy, and built in rustic-work: in the center of it is the door, which leads to the kitchens, cellars, and other offices: on each side rises a flight of steps, of very considerable extent, leading up to the portico, in the middle of which is the door, which leads to the apartments and offices where business is transacted. The stone balustrade of the stairs is continued along the front of the portico, and the columns support a large angular pediment, adorned with a noble group of figures, in bas relief, representing the dignity and opulence of the city of London. Beneath this portico are two series of windows, which extend along the whole front; and above these is an attic story with square windows, crowned with a balustrade.

The building is an oblong, and its depth is the long side; it has an area in the middle, and the farther end is an Egyptian hall, which

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is the length of the front, very high, and designed for public entertainments. To make it regular in flank, the architect has raised a similar building on the front, which is the upper part of a dancing gallery.

The apartments are very magnificent, but dark; the building being surrounded with houses, which also prevent its being viewed to advantage.

The British Museum merits particular attention, not only as the noblest cabinet of curiosities in the world, but as being a large, beautiful, and magnificent building. This edifice was erected in 1677, and was called Montague-house, from having been the town residence of the dukes of Montague. In the year 1753, the British parliament having passed an act for purchasing the museum of the late Sir Hans Sloane, and the collection of manuscripts of the late lord Oxford, called the Harleian library, for the use of the public, twenty-six trustees were appointed and incorporated, to provide a repository for these, and some other collections; which repository was to be called the British Museum. These trustees elected fifteen other trustees; and having purchased Montague-house, fitted it up for the reception of these collections. They also appointed proper officers to superintend the museum; and having ordained certain statutes with respect to the collection contained in it, the public were admitted to view it in 1757.

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The collection of Sir Hans Sloane consists of a very great number of natural and artificial curiosities, valuable remains of antiquity, and a large library, which together cost the proprietor 50,000*l*. It was purchased by parliament for 20,000*l*. 10,000*l*. was paid for lord Oxford's manuscripts; 10,000*l*. more was laid out for the purchase of Montague-house; 15,000*l*. was spent in repairs, alterations, and conveniences; and 30,000*l*. was vested in the public funds, for supplying salaries for officers, and other necessary expences. His late majesty added to this museum the royal libraries of books and manuscripts collected by the several kings of England; and the late major Edwards left it a fine collection of books, together with 7000*l*. in reversion for purchasing manuscripts, books, medals, and other curiosities. His present majesty has greatly augmented this repository, by a very large and valuable collection of books and manuscripts.

The British Museum, which has a garden of near eight acres behind it, is now in every part so excellently contrived for holding this noble collection, and the disposition of it in the several rooms is so orderly and well designed, that the whole may be justly esteemed an honour and ornament to this island.

But let us take a general view of the whole building, with the contents of each room, in the order in which they are shewn.

In

In the hall are several blocks or columns, of the Basaltes, the Giants-causeway in Ireland, of which mention has been made in the description of the curious fossils of these islands. Here is a stone brought from the Appian road, leading from Rome to Brundisium, with two antique heads of Termini, used as land-marks by the Romans. Here are also several fragments of granite columns, some curious pebbles, and a large piece of that sort of marble called Ophites, from its resemblance to a serpent's skin; likewise a fine large piece of the lava, which, in the eruptions of Mount Vesuvius, issues from it in form of a burning rivulet, destroying every thing in its way, and, as it cools, hardens into stone, which takes a fine polish, and is manufactured into tables, boxes, and toys. Several ancient stone monuments, with inscriptions in Latin, Greek, and other languages, may be viewed in the hall; a fine skeleton of a fish, called the unicorn; the head of a very particular kind of buffalo, with several other curiosities.

From the hall the ascent is by a magnificent stair-case, nobly painted by La Fosse. The subject of the ceiling is, Phaeton requesting Apollo to permit him to drive his chariot for a day. On the inside walls is a landskip by Rousseau. The ceiling of the vestibule represents the fall of Phaeton; and in this is a mummy, and some other antiquities. The saloon is a most magnificent room, the side walls of which are painted by La Fosse; with landskips by Rousseau, and flowers by the celebrated Baptist.

From the saloon the spectator is conducted to the right, into a room which contains the Cottonian and royal manuscripts, in number about 750 volumes. The next two rooms contain the Harleian manuscripts, consisting of about 7620 volumes; then turning to the right, the spectator enters a room occupied by the Harleian charters, in number about 16,000. Contiguous to this is the room of medals, which are in number upwards of 22,000; then turning a third time to the right, the next room contains Sir Hans Sloane's manuscripts; and, adjoining to the manuscript room, is another, which contains the antiquities, and which opens into the vestibule.

The spectator, passing again through the vestibule into the saloon, is conducted to the left, into a room which contains curious minerals: the next contains a collection of shells; and a third, a collection of vegetables and insects; then turning again to the left, the next room contains birds and animals in spirits; and contiguous to that is a room containing artificial curiosities.

Now descending a small stair-case, and passing through a room, in which is a magnetic apparatus given by Dr. Knight, the spectator is conducted through two rooms, which contain the Royal libraries; afterwards through four rooms, containing the library of Sir Hans Sloane, consisting of no less than 40,000 volumes; and from thence into a withdrawing
room

room for the trustees; then into the room which contains Major Edward's library, consisting of about 3000 volumes; and lastly, into a room that contains a part of the King's library, which in the whole consists of about 12000 volumes.

In the College of Physicians at Edinburgh is a noble museum, called Musæum Balfourianum, from its founder Sir Andrew Balfour, an eminent physician of that city. It contains a fine collection of natural and artificial curiosities, of which Sir Robert Sibbald, who very much augmented it, published an account in the year 1697.

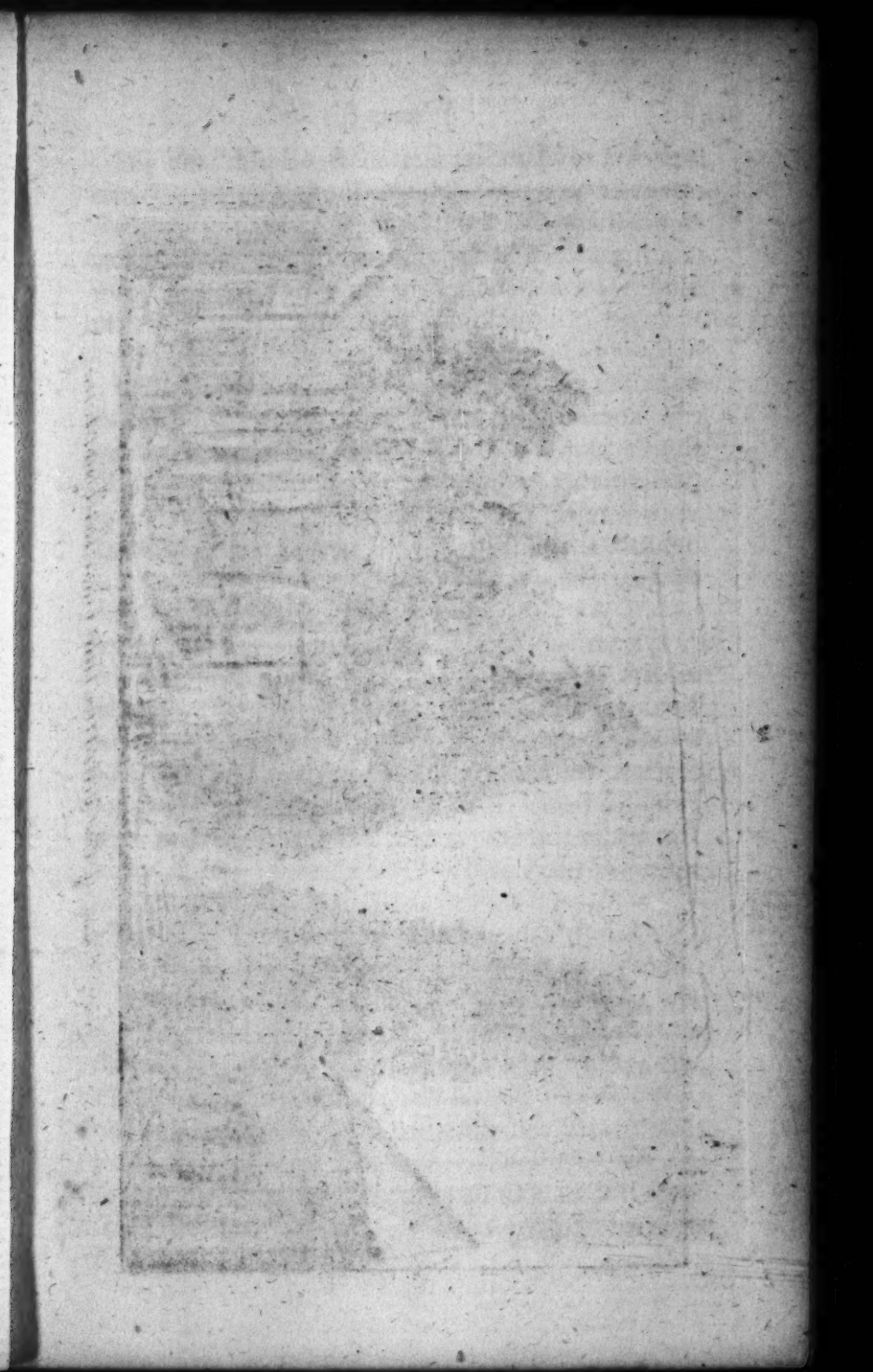
The most remarkable building in Edinburgh is a large court, commonly called the Parliament Close, from the Parliament-house, which forms a part of the court, and in which the parliament of the antient kingdom of Scotland usually assembled, before the union of England and Scotland into one kingdom, in the year 1707. The Parliament-house, which was erected by king Charles the First, in 1636, is a stately, large, convenient structure, of free-stone. Over the entrance are the arms of Scotland, supported by two figures, representing Mercy and Truth, with the inscription STANT HIS FOELICIA REGNA; and under the arms UNIO UNIONUM, referring to the union of the two crowns. The room where the parliament met is a curious piece of workmanship. Here is held the court of session, which is the

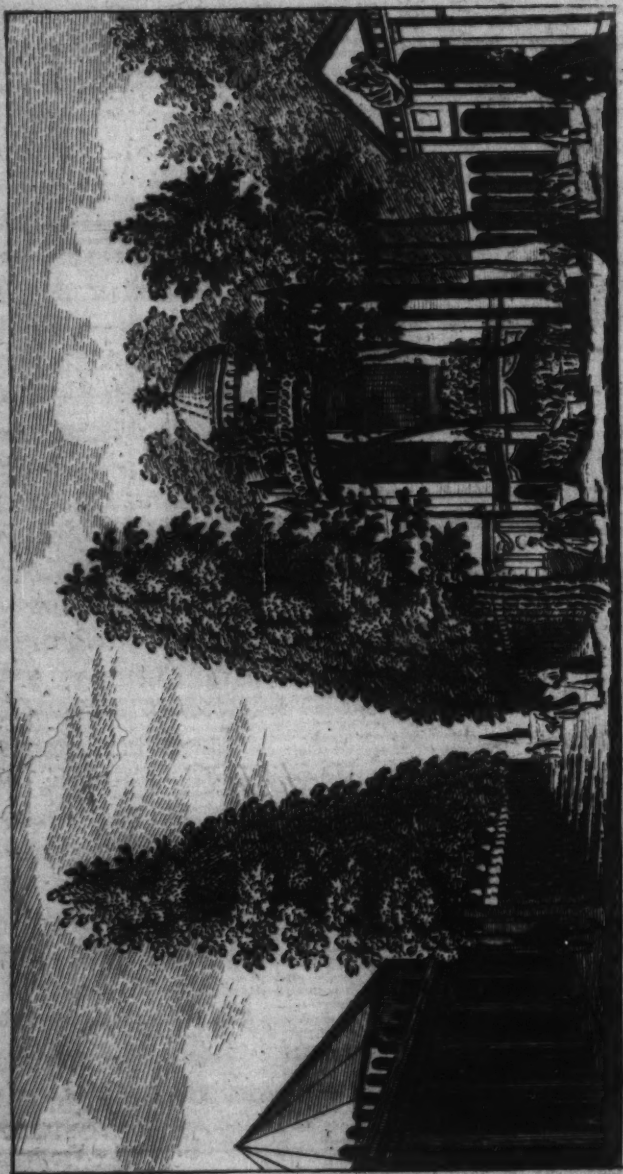
supreme civil judicature in Scotland, the justiciary or criminal court, and the sheriff and commissary courts. In the middle of the room, is a high throne for the sovereign, or commissioner, with benches on each side for the nobility and bishops one above another, so that the highest is level with the throne, and the lowest with the pit, where are forms in the middle for the commoners. Without the area, and opposite to the throne, is a pulpit, from which the parliament, upon particular occasions, heard divine service performed; with a large partition behind it for strangers to attend divine service, or hear the debates of the house.

Under the Parliament house is the Post office, and a library consisting of a noble collection of books and manuscripts, belonging to the faculty of advocates, in which is also an excellent collection of antient coins, particularly old English and Scotch coins. Joining to the Advocates library is the Register of all the deeds and securities of the nation.

Among other stately buildings in the Parliament-house is a fine room for the meeting of the Royal boroughs of Scotland, adorned with excellent paintings. Here is also a house, the highest perhaps of any in the world; it mounts seven stories above the area of the court; and being built on the edge of a precipice, the back part is as much below the court; so that, from the bottom to the top, the stair-case ascends fourteen stories.

In





A View of the entrance into Vaux-hall gardens.

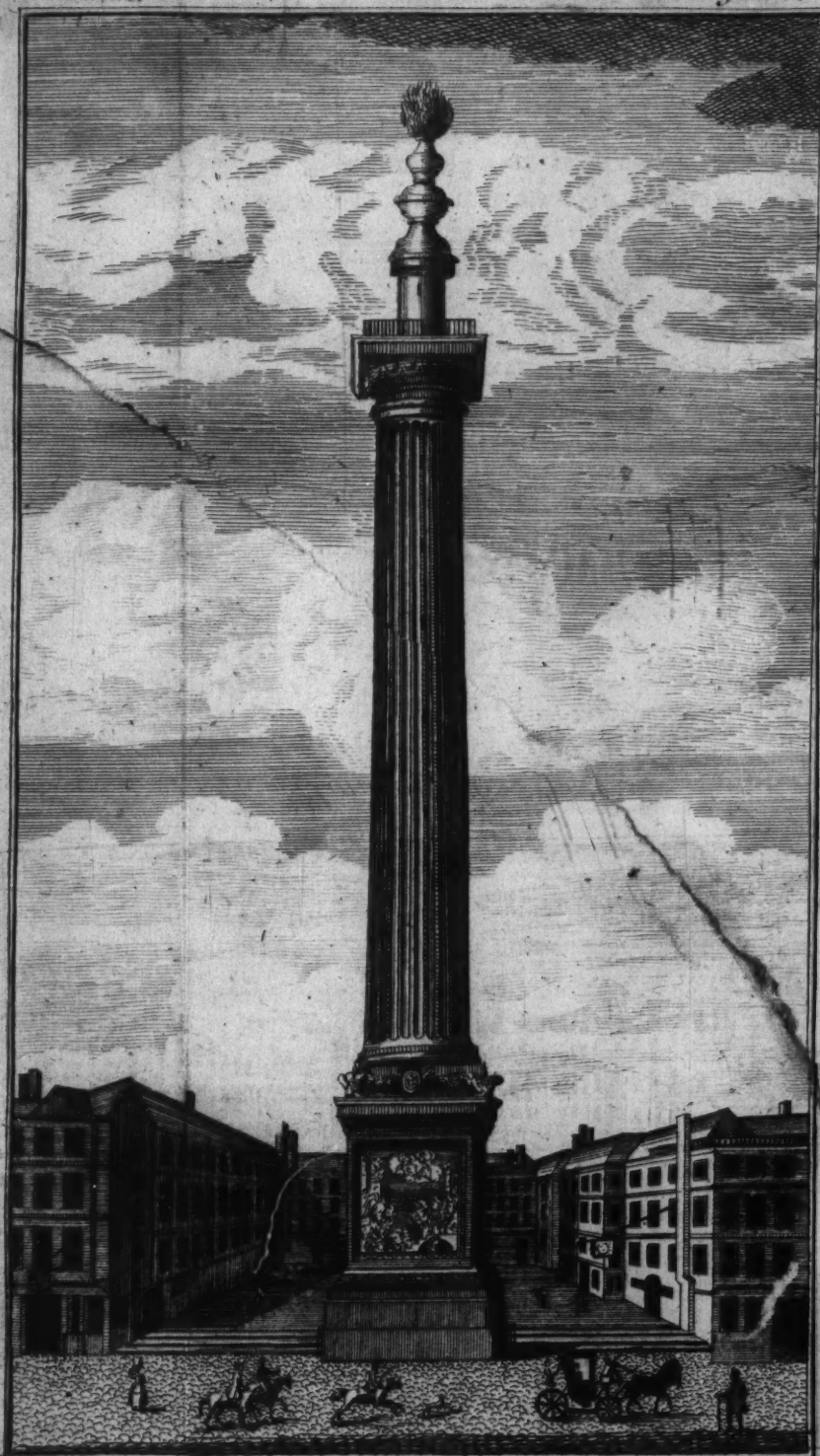
In the middle of the Parliament-close is a curious equestrian statue of king Charles the Second in brass, erected on a stately pedestal at the charge of the city ; a figure so exceedingly well proportioned, that it is esteemed the finest of the kind in Europe.

Near the Royal Hospital at Chelsea is Ranelagh house and gardens, so called from having been formerly the seat of the Earl of Ranelagh. This is now a place of public entertainment ; and, in the garden not far from the house, is a circular amphitheatre, the external diameter of which is 185 feet : round the whole is an arcade ; and over that a gallery, with a balustrade, except where the entrances into the house, which are four, break the continuity. Over this are the windows ; and it terminates with the roof. One of the entrances is filled by an orchestra, which was originally placed in the middle of the area, where there is now a chimney, with four faces, in which is a fire, whenever the weather makes it necessary. The entertainments consist of a band of music, with an organ, accompanied by the best voices ; and the place is frequented by persons of the first distinction.

At Vauxhall, a village near London, on the Surry side of the Thames, there are some spacious gardens, which have been for many years converted into a place of genteel entertainment, during two or three months in the summer season. In the middle of the garden is a magnificent orchestra, with a fine organ, a band of music,

music, and some of the best voices. Round the orchestra are boxes, disposed to the best advantage for hearing the music; and in most of the boxes are paintings designed by Mr. Hayman, of subjects admirably adapted to the place. Here is a rotunda and ball room, finely illuminated, in which is an orchestra, with an organ, where, on rainy evenings, the company may be safely sheltered and entertained. In this room are some good historical paintings by Hayman; and in the grand pavilion are several pieces by the same master, from the historical plays of Shakespeare, which are greatly admired for the design, colouring, and expression. In this garden are several noble vistas of very tall trees, where the spaces between each are filled up with neat hedges, and on the inside are planted flowers, and sweet smelling shrubs. Some of these vistas terminate in a view of ruins, and others in a prospect of the adjacent country; and some are adorned with the painted representation of triumphal arches. Here are also several statues, and, in particular a good marble one, by Roubiliac, of the late Mr. Handel, playing on a lyre in the character of Orpheus.

When it grows dark, the garden, near the orchestra, is illuminated almost in an instant, with about 1500 glass lamps, which, by their glittering among the trees, render the place exceeding light and brilliant. Afterwards a very extraordinary piece of machinery is exhibited on the inside of one of the hedges, near the entrance



The Monument.

trance into the vistas; by removing a curtain, a very fine landscape, illuminated by concealed lights, is presented; in which the principal objects are a cascade or water-fall, and a miller's house. The exact appearance of water is seen, flowing down a declivity and turning the wheel of a mill: it rises up in foam at the bottom, and then glides away. This moving picture, attended with the noise of the water, has a very pleasing and surprising effect both on the eye and the ear. Several of the walks around the orchestra, are now covered, so that the company walk safely in rainy weather.

Every thing is provided in these gardens in the most elegant manner, for such of the company as chuse to sup there.

In a square open to the street, on the north side of London-bridge, stands a beautiful and magnificent column, of the Doric order, built with Portland stone, and called the Monument. This column, which was erected to perpetuate the fire of London, which broke out near the place where it stands, was begun, according to a design of Sir Christopher Wren, in 1671, and finished in 1677. It is fifteen feet in diameter, and 202 feet high from the ground. It stands upon a pedestal forty feet high, and twenty-one feet square. On the cap of the pedestal are four dragons, the supporters of the city arms; and between them trophies with symbols of regality, arts, sciences and commerce.

Within

Within it is a spiral stair-case of black marble, containing 345 steps, with iron rails leading to a balcony, which is the abacus of the column, and encompasses a cone, 32 feet high, supporting a blazing urn of brass gilt.

The west side of the pedestal is adorned with emblems by Cibber, of which the eleven principal figures are in alto, and the rest in basso relievo. The figure to which the eye is particularly directed is a female, representing the city of London, sitting in a languishing posture on a heap of ruins.

Behind her is Time gradually raising her up; at her side a woman, representing Providence, gently touches her with one hand, while, with a winged serpent in the other, she directs her to regard two goddesses in the clouds, one with a cornucopia, denoting Plenty, the other with a palm branch, the emblem of Peace.

At her feet is a bee-hive, to shew that, by industry and application, the greatest misfortunes may be overcome. Behind Time are citizens exulting at his endeavours to restore her; and beneath, in the middle of the ruins, is a dragon, the supporter of the city arms, who endeavours to preserve them with his paw. Still further, at the north end, is a view of the city in flames, with the consternation of the inhabitants. On the other side, on an elevated pavement, stands king Charles the Second, in a Roman habit, and, approaching the figure pre-

presenting the city, appears to command three of his attendants to descend to her relief: the first represents the Sciences, the second Architecture, and the third Liberty. Behind the king stands his brother the Duke of York, with a garland in one hand to crown the rising city, and a sword in the other, for her defence: behind him are Justice and Fortitude; in the pavement, under the sovereign's feet, appears Envy peeping from her cell, and gnawing a heart; and, in the upper part of the background, the re-construction of the city is represented by scaffolds, erected by the sides of unfinished houses, with builders and labourers at work upon them.

The other sides of the pedestal have each a Latin inscription, that on the north side is an account of the fire of London; its rise, progress, and the amazing devastation done by it, as related already in a former part of this work. The inscription on the south side specifies the gracious, prudent, and vigorous measures taken by the king and parliament for restoring the city, with greater beauty, magnificence, and convenience; for preventing the like conflagration for the future, with some other particulars: the inscription on the east side contains the names of the lord mayors from the time it was begun, till it was finished; and round the upper part of the pedestal is the following inscription in English.

• This

‘ This pillar was set up in perpetual remembrance of the most dreadful burning of this Protestant city, begun and carried on by the treachery and malice of the popish faction, in the beginning of September, in the year of our Lord 1666, in order to their carrying on their horrid plot, for extirpating the Protestant religion, and old English liberty, and introducing popery and slavery.’

This inscription, upon the Duke of York’s accession to the crown, was immediately erased : but soon after the revolution, was restored again. It was less or more believed as the spirit of party prevailed : but what share of credit is really due to it has been the subject of some enquiry in the account of the fire of London, already given in another part of this work.

An eminent writer observes of this monument, that it is undoubtedly the noblest modern column in the world ; nay, that, in some respects, it may justly vie with those celebrated ones of antiquity, which are consecrated to the names of Trajan and Antoninus ; that nothing can be more bold and surprizing ; nothing more beautiful and harmonious ; that the bas relief at the base, allowing for some few defects, is finely imagined, and as finely executed ; and that nothing material can be cavilled with, but the inscriptions round it.

